

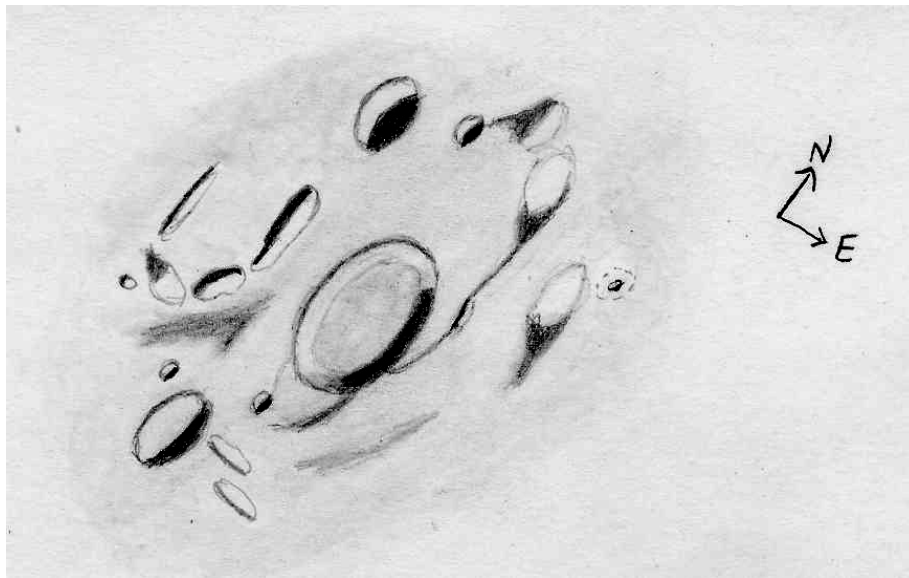


THE LUNAR OBSERVER

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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FEATURE OF THE MONTH - JULY 2007



NOGGERATH

Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA

January 31, 2007 - 03:10 to 03:34 UT

15cm Newtonian - 170x - Seeing 5-7/10

I sketched this crater and vicinity on the evening of Jan. 30/31, 2007 after the moon hid 47 Geminorum. This crater lies between Schickard and Schiller, and was better placed for viewing than usual. Noggerath is a relatively shallow crater with a smooth, featureless floor. The fairly large, deep crater toward the northwest is Noggerath J, and Noggerath F is the smaller, but otherwise similar crater east of J. Noggerath G is toward the south, and is much like J in size, but is definitely shallower. There are two small pits near G. The partial ring west of Noggerath is Noggerath H. This feature is broken into at least four pieces, and has no north rim. Some narrow, curved strips of shadow south and east of Noggerath may be the remnants of old rings. There appear to be two shallow depressions northeast of Noggerath. A low mound is between one of them and Noggerath F, and a tiny pit with halo is near the other one. There were a few other hills that I drew as I saw them. This general area is not heavily cratered.

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.justfunfun.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.

LUNAR CALENDAR - JULY 2007 (UT)

July 03	17:00	Moon 1.2 Degrees SSE of Neptune
July 05	19:00	Moon 1.7 Degrees NNW of Uranus
July 07	16:54	Last Quarter
July 09	11:00	Moon 5.9 Degrees NNW of Mars
July 09	21:39	Moon at Perigee (368533 km - 228996 miles)
July 13	04:00	Moon 8.6 Degrees N of Mercury
July 14	12:04	New Moon (Start of Lunation 1046)
July 16	23:00	Moon 0.18 Degrees SE of Saturn
July 17	12:00	Moon 2.4 Degrees NNE of Venus
July 18	12:00	Moon 0.33 Degrees SSW of asteroid Massalia
July 22	06:28	First Quarter
July 22	08:44	Moon at Apogee (404150 km - 251127 miles)
July 25	17:00	Moon 5.7 Degrees S of Jupiter
July 30	00:49	Full Moon
July 31	02:00	Moon 1.2 Degrees SSE of Neptune

A.L.P.O. LUNAR COORDINATORS

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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)

CALL FOR OBSERVATIONS: **FOCUS ON: Proclus & Palus Somni**

Focus on is a bi-monthly series of articles which includes observations received for a specific feature or class of features. The subject for the September 2007 edition will be the crater **Proclus and nearby Palus Somni**. 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 Proclus/Palus Somni article is August 20, 2007

Proclus & Lunar Transient Phenomena

WILLIAM DEMBOWSKI - LTSS COORDINATOR:

The crater Proclus is not only an interesting feature from a topographical standpoint, it is also a site frequently mentioned in reports of Lunar Transient Phenomena (LTP). As you observe Proclus 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 Proclus, for the months of July and August, 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 Theophilus 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.

Schedule of Repeat Illumination Events for Crater Proclus

Compiled by Dr. Anthony Cook
Coordinator, LTP Section

Date	UT	Phase	Original observation with link to description
2007-Jul-01	02:28-15:08	99%	Bartlett 1957-Mar-17 http://www.cs.nott.ac.uk/~acc/Lunar/Events/2195
2007-Jul-01	23:52-04:42	97%	Robinson 1975-Feb-28 http://www.cs.nott.ac.uk/~acc/Lunar/Events/8105
2007-Jul-03	12:51-15:24	89%	Gray 2001-Nov-04 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9360
2007-Jul-18	21:25-22:15	19%	Firsoff 1955-May-25 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1695
2007-Jul-18	23:23-00:48	20%	Persson 1972-Apr-17 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7215
2007-Jul-20	12:11-14:07	34%	Gergoulis 1969-Jul-20 http://www.cs.nott.ac.uk/~acc/Lunar/Events/6010
2007-Jul-20	15:16-16:47	35%	Haas 2003-Sep-02 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9475
2007-Jul-20	21:14-22:36	37%	Cook 1990-Mar-03 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9165
2007-Jul-21	01:53-03:15	39%	Bartlett 1950-Jul-21 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1290
2007-Jul-21	15:43-16:54	45%	Haas 2003-Sep-03 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9480
2007-Jul-21	19:33-21:17	46%	Hopp 1972-Jun-18 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7345
2007-Jul-21	22:27-23:00	46%	Barrett 1877-Mar-21 http://www.cs.nott.ac.uk/~acc/Lunar/Events/300
2007-Jul-22	00:35-02:59	48%	Kern 1972-Jun-18 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7360
2007-Jul-22	07:18-08:09	51%	Bartlett 1956-Feb-19 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1960
2007-Jul-22	08:46-11:18	52%	LeRoy 1969-Jul-22 http://www.cs.nott.ac.uk/~acc/Lunar/Events/6050
2007-Jul-22	11:12-14:44	53%	Jewitt 1972-Mar-22 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7175
2007-Jul-22	19:15-21:16	55%	Dean 1970-Jul-11 http://www.cs.nott.ac.uk/~acc/Lunar/Events/6790
2007-Jul-23	10:46-15:09	63%	Rudolphi 1972-Mar-23 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7185
2007-Jul-24	07:53-11:51	71%	Hopp 1972-Mar-24 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7195
2007-Jul-25	03:09-05:15	76%	Cook 1989-Jul-13 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9140
2007-Jul-26	03:34-05:07	84%	Bartlett 1950-Jul-26 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1310
2007-Jul-26	22:08-23:09	89%	Foley 1975-Mar-24 http://www.cs.nott.ac.uk/~acc/Lunar/Events/8145
2007-Jul-27	03:52-05:04	90%	Bartlett 1950-Jul-27 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1320
2007-Jul-30	05:01-06:02	99%	Bartlett 1950-Jul-30 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1330
2007-Aug-01	09:46-22:36	91%	Muller 1973-Jan-22 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7620
2007-Aug-02	00:08-01:57	88%	Gray 2001-Nov-04 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9360
2007-Aug-17	08:03-09:45	19%	Firsoff 1955-May-25 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1695
2007-Aug-17	09:42-11:39	19%	Kolovos 1985-May-23 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9045
2007-Aug-19	08:19-09:42	35%	Cook 1990-Mar-03 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9165
2007-Aug-20	07:17-07:46	44%	Hopp 1972-Jun-18 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7345
2007-Aug-20	08:58-10:41	45%	Barrett 1877-Mar-21 http://www.cs.nott.ac.uk/~acc/Lunar/Events/300
2007-Aug-20	12:21-13:27	46%	Kern 1972-Jun-18 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7360
2007-Aug-20	21:45-00:33	50%	Stolzen 1972-Jan-23 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7100
2007-Aug-21	12:39-14:59	56%	Bartlett 1958-Oct-21 http://www.cs.nott.ac.uk/~acc/Lunar/Events/2525
2007-Aug-22	17:19-19:20	67%	Krojer 1973-Jan-13 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7590
2007-Aug-22	18:38-20:34	67%	Schnuchel 1973-Jan-13 http://www.cs.nott.ac.uk/~acc/Lunar/Events/7610
2007-Aug-24	14:26-16:23	83%	Bartlett 1959-Mar-21 http://www.cs.nott.ac.uk/~acc/Lunar/Events/2620
2007-Aug-28	03:21-06:09	99%	Argentiere 1956-Nov-18 http://www.cs.nott.ac.uk/~acc/Lunar/Events/2145
2007-Aug-28	14:43-16:18	99%	Bartlett 1958-May-04 http://www.cs.nott.ac.uk/~acc/Lunar/Events/2335
2007-Aug-29	05:37-06:07	99%	Bartlett 1958-Sept-29 http://www.cs.nott.ac.uk/~acc/Lunar/Events/2510
2007-Aug-29	07:51-09:45	98%	Green 1938-Nov-08 http://www.cs.nott.ac.uk/~acc/Lunar/Events/945

Selene and Aphrodite in a Celestial Waltz

By Anthony Ayiomamitis

All images by Anthony Ayiomamitis (Athens, Greece)

AP160/f7.5 EDF refractor - AP1200GTO GEM - Canon EOS 300d digital camera

Thanks to pristine weather conditions earlier today (June 18, 2007), I had the privilege and thrill of observing and imaging my second occultation during the past three years involving two of the three brightest objects in the sky. In spite of the fact that the occultation of Venus by the 3.5-day old moon occurred during the day (similar to the May/2004 event), these two bright celestial bodies were easily visible both with the naked-eye as well as through the telescope's humble finderscope.

Venus is currently at 26.39 arc-seconds and growing as it approaches opposition later this summer. With a magnitude of -4.4 and a phase of 44.1%, it is an easy target to locate during the day and, particularly, when the moon is nearby so that proper focusing by our eye against the blue sky (for true infinity) becomes feasible. Through a telescope, even the telescope's finderscope, Venus and its approximate first-quarter phase are easily discernible.

Similarly, the 3.5-day old waning moon was also a pleasant site through the telescope's finderscope with the thin crescent moon meticulously bathed against the rich blue sky. Its milky white surface allowed the identification of many major lunar features associated with the eastern quadrant including Mare Crisium being the most dominant due to its proximity to the lunar terminator.



FIGURE 1

**Venus just to the east of the transparent lunar limb
seconds before first contact and disappearance.**

FIGURE 2

**Venus just past the western lunar limb
seconds after reappearance 80 minutes later.**

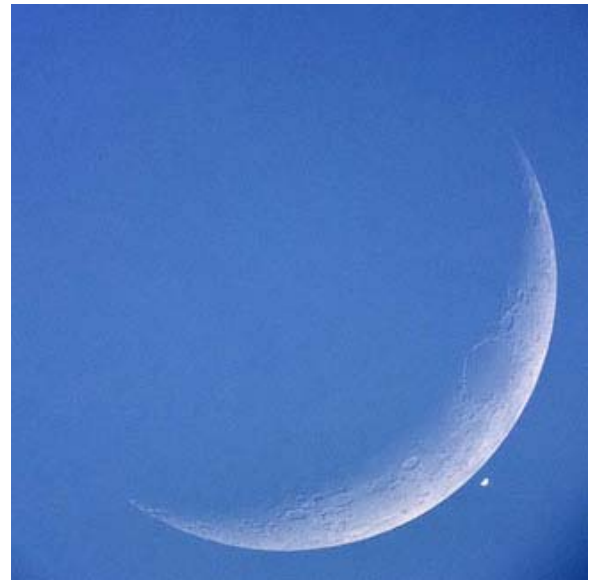


FIGURE 3

**A collage of the first two images which beautifully illustrate
both the disappearance and reappearance.**

Links of possible interest include:

- (1) <http://www.perseus.gr/Astro-Lunar-Occult-2007-06-18.htm>
(seconds before disappearance)
- (2) <http://www.perseus.gr/Astro-Lunar-Occult-2007-06-18b.htm>
(seconds after reappearance)
- (3) <http://www.perseus.gr/Astro-Lunar-Occult-2007-06-18c.htm>
(collage - disappearance and reappearance)
- (4) <http://www.perseus.gr/Astro-Lunar-Occult-2004-05-21D.htm>
(same event also during the day in May/2004)

FOCUS ON: Theophilus

William M. Dembowski, FRAS
Coordinator, Lunar Topographical Studies

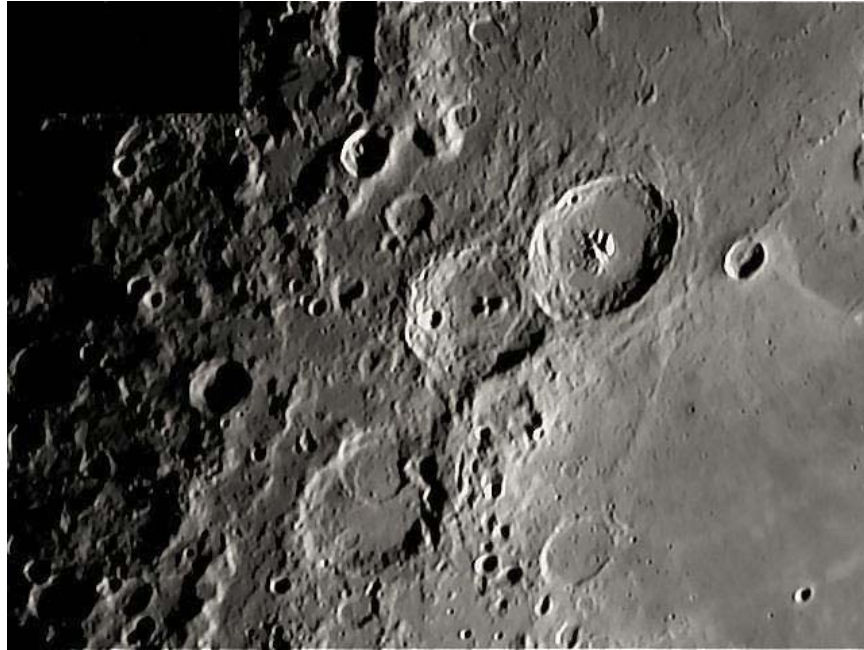


FIGURE 1

Digital image by Ed Crandall - Winston-Salem, North Carolina, USA
November 6, 2006 - 22:40 UT
110mm f/6.5 APO Refractor - 3x Barlow

INTRODUCTION:

Theophilus is the northernmost of a stunning trio of nearly identically sized craters in the Southeastern Quadrant of the Moon (Figure 1). Although all three craters have similar diameters (approximately 100km) they were not formed at the same time. Catharina and Cyrillus, the other two members of the threesome, are quite heavily eroded. The features of Theophilus are still quite fresh (in relative terms) and so must be considerably younger. Don Wilhelms of the USGS has classified Theophilus as Erastothenean in age which would place it somewhere between 1.1 and 3.2 billion years old, and probably at the younger end of that range.

THE WALLS:

At first glance, Theophilus appears to be circular in shape but, on closer inspection, it seems more polygonal than round. The walls of the crater rise about 1200 meters above the surrounding terrain and an impressive 3200 meters above the floor. The walls of Theophilus are a highly complex mixture of terraces, landslips, and an array of ridges, grooves and minor craterlets. The only crater of any significant size on the walls is the 9km Theophilus B well down the Northwest rampart. Beyond the walls of Theophilus is the ejecta blanket which shows up beautifully under a low sun in the mare regions (Sinus Asperitatis) to the north and east (Figure 2).



FIGURE 2
Digital mosaic by Rik Hill - Tucson,
Arizona, USA
May 23, 2007 - 03:37 UT
Celestron C14 SCT - 1.6x Barlow -
UV/IR Blocking Filter
SPC900NC Camera

THE FLOOR:

The floor of Theophilus is relatively flat with an absence of any easily seen craters (Figure 3). The very smoothest regions of the floor are believed to be rocks that were ejected by the crater forming impactor and then rained back down while still in a molten state.



FIGURE 3
Digital image by Paulo Lazzarotti
Scansano (GR), Italy
December 27, 2006 - 18:59 UT
Gladius CF-315 Lazzarotti Opt. Scope
Lumenera Infinity 2-1 Camera
Edmunds Optics R Filter
0.12 arcsec/pixel image scale
50 msec exposure

The center of the crater is dominated by a cluster of massive peaks. The three highest, ranging in height between 1400 and 2000 meters, easily catch the sunlight while the floor is in deep shadow; a truly striking sight to behold. In addition, there are a large number of hills and mounds radiating from the central cluster to the east and west walls (Figure 4).

FIGURE 4
Digital image by
Achille Giordano

Naples, Italy

April 4, 2004 - 19:35 UT

Meade ETX125 f/15 Mak-Cass
2x APO Barlow - IR cut off filter

Seeing: 8/10

Philips Toucam Pro



Not only are the central peaks large, they are also quite bright, especially under a high sun, and seem to be the focal point of a subtle ray system (Figure 5). In fact, the peaks are so bright that Edward Pickering once theorized that their brilliance was the result of repetitive falling and melting snow (long since disproved, of course). Theophilus is one of the more frequently reported sites of Lunar Transient Phenomena (LTP) with sightings of pink areas, red spots, and unpredictable brightenings of the wall and/or central peaks.

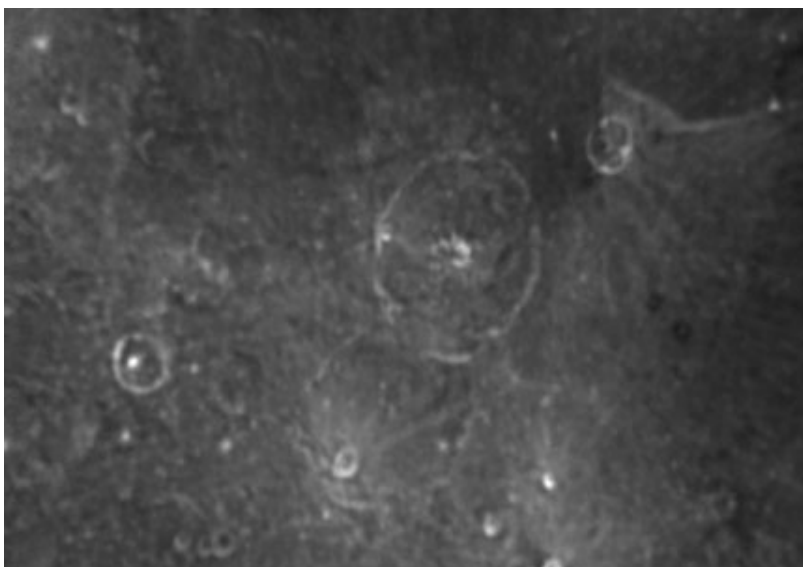


FIGURE 5

Digital image by Wayne Bailey - Sewell, New Jersey, USA

May 29, 2007 - 02:12 UT - Colongitude: 57.8 - Seeing: 5/10 - Trans: 2/6

Celestron C11 f/10 SCT 2x Barlow - Schuler IR72 Filter

Lumenera Skynyx 2-1M Camera

DOUBLE-DIGIT OBSERVING:

With a diameter of 100km, Theophilus is an easy target for those observing with magnifications below 100x. First observe its position in the lunar landscape with Mare Nectaris to the southeast and Sinus Asperitatis to the north and how it impinges upon northeastern wall of Cyrillus. When near the terminator, see how Theophilus appears to almost be connected to Beaumont by a long ridge and look for the illumination of the peaks against the shadow filled floor (Figure 6). Finally under a high sun make note of the brightness of the peaks and look for traces of the ray system on the nearby mare surfaces.

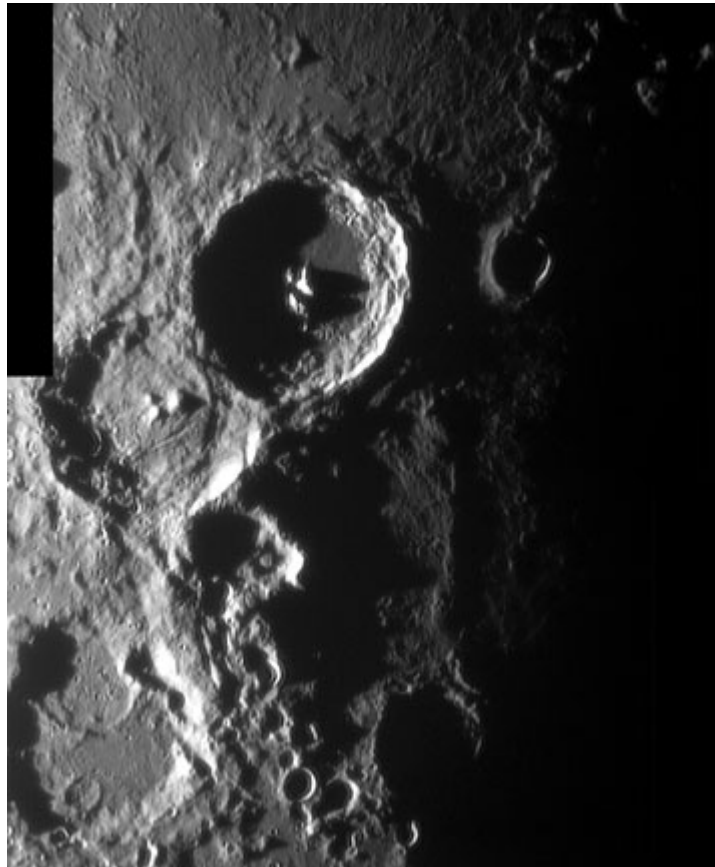


FIGURE 6

**Digital mosaic by Gerardo Sbarufatti - Caselle Landi (LODI) Italy
October 12, 2006 - 04:09-04:12 UT - Seeing: A III - Trans: 3/5
Celestron 8 inch SCT - 2x Barlow - Red Filter
KamPro02 Camera - 100 sec at 25 fps**

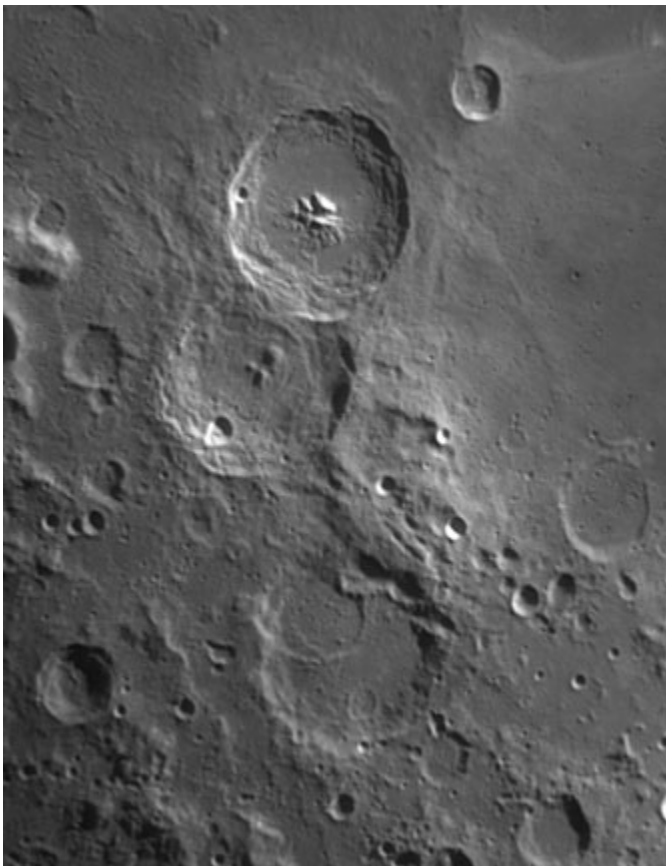
REFERENCES:

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North, Gerald - "Observing the Moon: The Modern Astronomer's Guide" - Cambridge (2000)
Rukl, Antonin - "Atlas of the Moon", Paul Hamlyn Publishing, 1991
Wood, Charles A. - "The Modern Moon: A Personal View", Sky Publishing, 2003

ADDITIONAL THEOPHILUS OBSERVATIONS

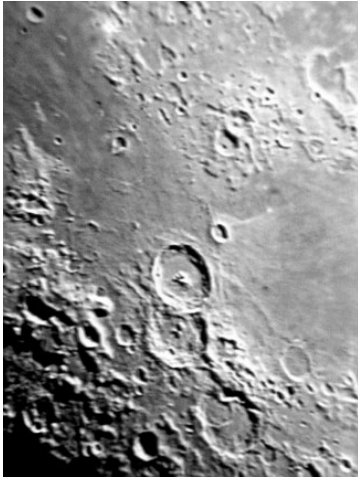


**Digital image by Klaus Peterson - Glinde, Germany
May 3, 2006 - 19:12 UT
Meade LX200 8 inch f/10 SCT
Philips Toucam - IR Block Filter**



**Digital image by Marnix Praet - Belgium
Skywatcher 254mm Telescope
4x Barlow - Variable polarizing filter
ATK-2HS Camera**

ADDITIONAL THEOPHILUS OBSERVATIONS



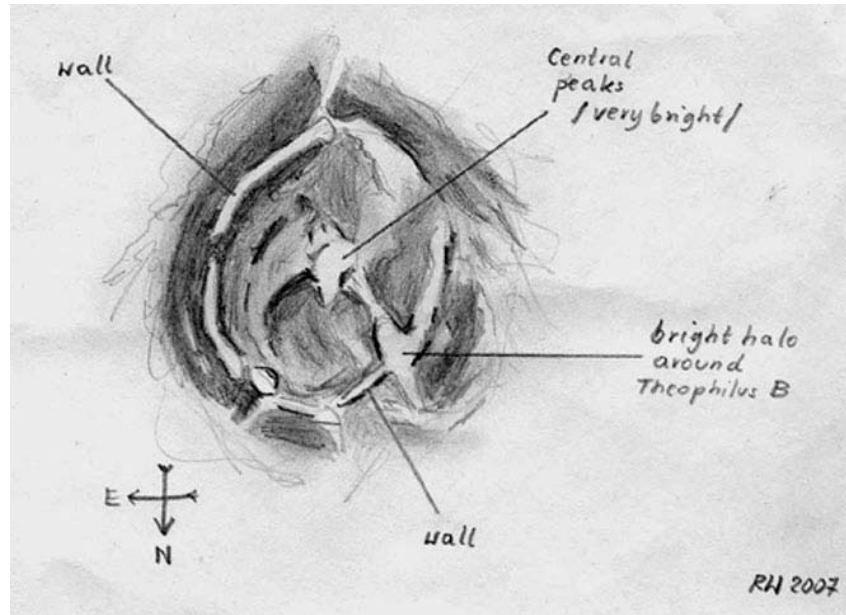
**Digital image by Jay Albert
Lake Worth, Florida, USA
June 24, 2004 - 03:00 UT
Celestron 11 inch SCT - Klee 2.8x Barlow
40mm Plossl EP - Olympus C5050 (afocal)**

**Photograph (film) by Ralph Geschwind
Massillon, Ohio, USA
April 14, 2005
Seeing: 8/10
10 inch f/10 SCT
Chinon 35mm Camera
20mm Eyepiece Projection**



**Digital image by Maurice Collins
Palmerston North, New Zealand
March 24, 2007 - 06:37 UT
Meade ETX90 - 25mm EP**

ADDITIONAL THEOPHILUS OBSERVATIONS



**Drawing Near Full Moon by Robert Włodarczyk - Czestochowa, Poland
June 3, 2007 - 00:15 UT
15cm f/6 Newtonian - 112x - Seeing: 7/10 - Trans: 3/6**



**Drawing by Fred Corno
Settimo Torinese, Italy
March 16, 2005
Vixen VMC200L 8" Catadioptric
216x (Vixen Ortho 9mm EP)
Seeing: 5/10 - Trans: 5/6**

A Brief Study of Deslandres

By Wayne Bailey

**All images by Wayne Bailey (Sewell, New Jersey, USA)
Celestron C-11 f/10 SCT - Lumenera Skynyx 2-1M camera - Schuler IR72 filter**



FIGURE 1

May 25, 2007 - 02:53 UT - Colong: 9.4 - Seeing 5/10 - Trans. 3/6 - (2x Barlow)

Although it's a large (234 km, almost as large as Sinus Iridum) crater with lots of interesting detail, Deslandres doesn't seem to attract much attention, possibly because nearby Tycho dominates the view during high sun, and the Straight Wall in Mare Nubium to the northwest, and the double string of eye-catching craters extending north from Walter (or Walther depending on which chart you use) to Ptolemaeus-Albategnius attract attention when the terminator is near. Cassini's Bright Spot, in the northeast quadrant of Descartes, marks its location when the sun is high.

In this image, the terminator is just west of Descartes, so a wealth of detail is visible within the crater. Lexell is the crater on the southeast rim that has a large gap in its north wall. There's a shallow groove (or possibly low scarp) that emerges from the shadow of Lexell's east wall, extends through the gap, and continues straight across the floor of Descartes, becoming less distinct until it becomes a thin line and curves to the west, to apparently merge with a curved line of hills. This line of hills extends from the north side of Hell to the south end of the crater string northwest of Walter W. Slightly more than midway along the groove from Lexell to its bend, an arc of three small (3 km) craters is visible extending from its north edge to the northeast. The middle crater of these three is located in Cassini's bright spot (not noticeable at this phase but conspicuous under high sun). Just below the northeast rim there's a slightly smoother patch of mare material that becomes a conspicuous dark spot under high sun. These two features, along with Hell, whose outline remains visible, mark Descarte's location near full moon, when Tycho's rays dominate the area. The floor of Descartes is littered with small hills which

seem to outnumber small craters. Are these ejecta from a basin formation? There's a second crater chain that's barely visible crossing the rim from Mare Nubium west of Hell B. Descartes' wall is pockmarked and overlapped by several craters, notably Ball, Lexell, and Walter. Hell, on the floor of Descartes, itself overlaps an obscure crater that's recognizable from the arcs visible between Hell and Hell C.

To the east of Descartes is another eye-catching crater, Walter. It overlaps part of the east wall of Descartes, indicating that it is the younger of the two. The adjacent, smooth triangular area just inside Descartes is Walter W. There appears to be a narrow gap in the wall between Walter and Walter W. The southwestern floor of Walter is smooth except for a few rounded hills and small craters. The floor of Walter W appears similar. The northeastern floor of Walter, however, appears rougher and the small hills there appear more angular. Apparently, Walter W and part of Walter have been flooded. Are they connected through the apparent gap in their common wall? If so, which was the source of the lava? The flooding apparently was contained within Walter W and doesn't extend onto Descartes. Walter E, inside Walter adjacent to W, has narrow, radial structure on its eastern wall. Nanius L, perched on the east wall of Walter, appears to have a ridge connecting a central peak to its south wall, but this is actually a smaller crater (Nanius K) superimposed on L whose northwest rim is lost in shadow.



FIGURE 2

May 25, 2007 - 02:12 UT - Colong: 9.0 - Seeing: 5/10 - Trans: 3/6

Figure 2 is similar to the image in Figure 1 except it is 40 minutes earlier, and half the scale. Even after only 40 minutes, there are visible differences in some of the shadows since the terminator was so near.

What a difference 4 days makes. The 5/29 image (Figure 3) has higher angle illumination. Cassini's bright spot is conspicuous, as are dark mare material patches near the northeast rim of Descartes, the north center of Walter, and the southeast of Hell. Lexell and Ball are also recognizable. Ball has radial bands on its southwest wall that are less distinct, but reminiscent of the bands in Aristarchus. The entire area is overlain by Tycho's rays, which are beginning to mask everything.

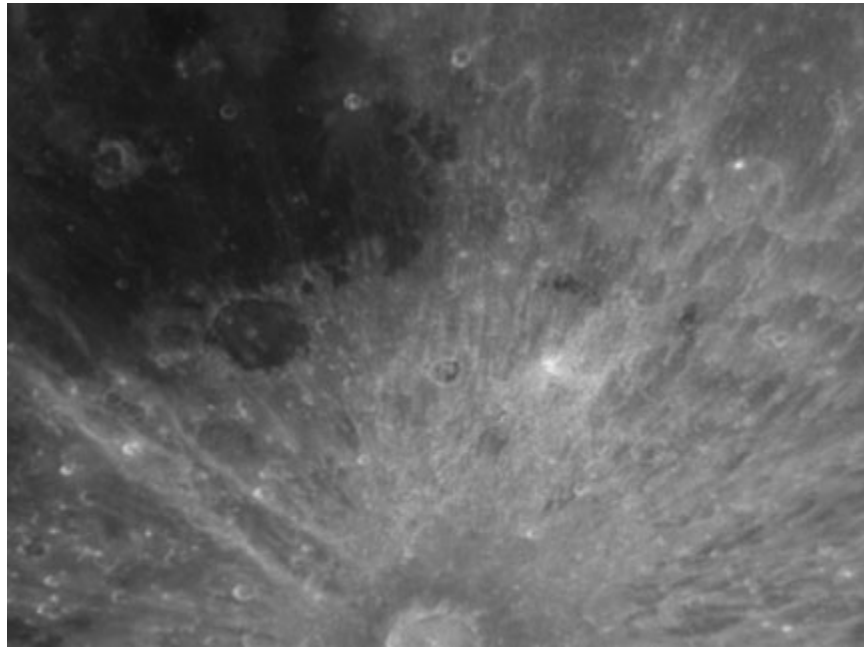


FIGURE 3 **May 29, 2007 - 05:06 UT - Colong: 83.7 - Seeing: 3/10**



FIGURE 4 **May 31, 2007 - 05:06 UT - Colong: 83.7 - Seeing: 3/10**

Figure 4 is an image of Deslandres under a high sun. Tycho's rays mask much of the underlying detail in this image, but Deslandres and Walter are easily located by Cassini's bright spot and the dark mare material patches located in Hell, near the northeast rim of Deslandres, and near the center of Walter. Charles Wood in "The Modern Moon" says that Cassini's Bright Spot has rays extending tens of kilometers from the small crater. There definitely is a central, very bright, rayed structure, but it looks to me like bright material covers close to half of Deslandres that is not aligned to Tycho. The bright streak extending to the southeast from Cassini's Bright Spot seems to abruptly terminate at Deslandres' wall, and there appear to be thin rays extending well into Walter. Also the bright radial marking on the wall of Ball appear to extend across Ball, converge, and continue toward Cassini's Bright Spot.

LUNAR TOPOGRAPHICAL STUDIES

Coordinator - William M. Dembowski, FRAS

dembowski@zone-vx.com

OBSERVATIONS RECEIVED

JAY ALBERT - LAKE WORTH, FLORIDA, USA

Digital image of Theophilus

MICHAEL AMATO - WEST HAVEN, CONNECTICUT, USA

Digital image of 1-day Moon

ANTHONY AYIOMAMITIS - ATHENS, GREECE

Digital images of daylight lunar occultations of Regulus, Venus (4)

WAYNE BAILEY - SEWELL, NEW JERSEY, USA

Digital images of Theophilus (5), Petavius & Furnerius (2), Stevinus & Furnerius (2), Dionysius (3), Deslandres (3), Reiner, Marius

Banded Crater Forms with digital images of Aristillus & Theaetetus (5), Pytheas (2), Menelaus, Menelaus & Silberschlag (2), Menelaus & Dawes (2), Aristarchus, Burg (5)

MICHAEL BOSCHAT - HALIFAX, NOVA SCOTIA, CANADA

Digital images of eastern hemisphere of 1st. Qtr. Moon, Southern Quadrant of 1st. Qtr. Moon

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND

Digital images of 9-day Moon (2), 10-day Moon (4), 12-day Moon (3), 17-day Moon (3)

ED CRANDALL - WINSTON-SALEM, NORTH CAROLINA, USA

Digital images of Plato region, Manilius, Archimedes, Davy Catena, Deslandres

HOWARD ESKILDSEN - OCALA, FLORIDA, USA

Digital images of Moon & Venus (2), Rima Archytis,

Banded Crater Forms with digital images of Ariadaeus (2), Aristarchus (2), Aristillus, Birt, Bode, Burg (2), Conon, Kepler (2), Menelaus, Messier (2), Proclus (2), Pytheas, Silberschlag, Theaetetus, Damoiseau

RALPH GESCHWIND - MASSILLON, OHIO, USA

Film photographs of Bullialdus, Schickard, Janssen, Arago & Ross

RIK HILL - TUCSON, ARIZONA, USA

Digital images of Catharina to Torricelli, Sabine & Ritter, Piccolomini to Menzel, Theophilus & Torricelli

PAULO LAZZAROTTI - MASSA, ITALY

Digital images of Messier & Messier A, Torricelli, Gutemberg-Goclenius region, Arago & Sabine & Ritter, Fracastorius & Beaumont, Littrow to Maraldi, Posidonius

BOB O'CONNELL - KEYSTONE HEIGHTS, FLORIDA, USA

Digital images of Theophilus (2)

KLAUS PETERSON - GLINDE, GERMANY

Digital images of Theophilus (2)

MARNIX PRAET - BELGIUM

Digital images of Theophilus, Aristoteles & Eudoxus, Mare Serenitatis

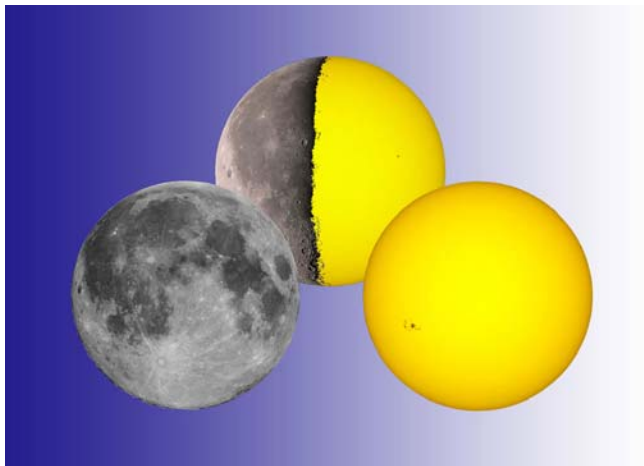
GERARDO SBARUFATTI - CASELLE LANDI, ITALY

Digital images of Theophilus & Cyrillus & Catharina (2)

ROBERT WLODARCZYK - CZESTOCHOWA, POLAND

Drawings of Schickard, Longomontanus, Theophilus

The Lighter Side of the Moon

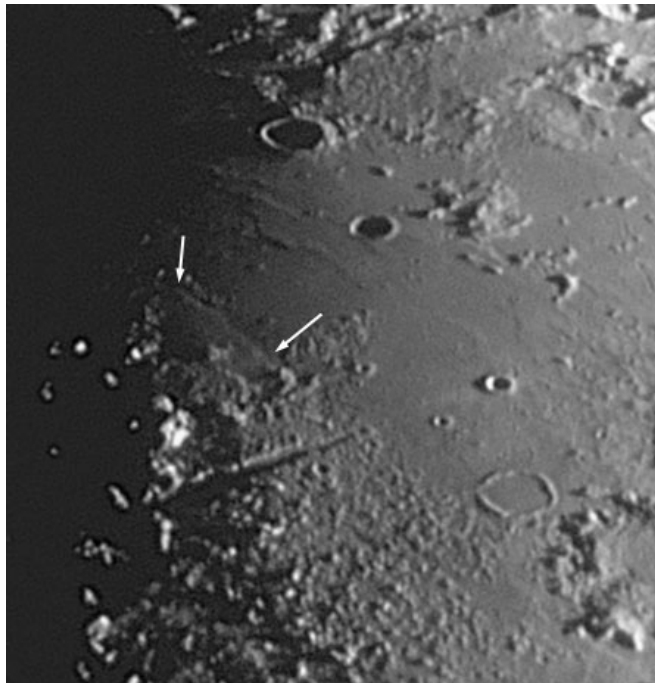


**Howard Eskildsen
Ocala, Florida, USA**



**Steve Boint
Sioux Falls, South Dakota, USA**

RECENT TOPOGRAPHICAL OBSERVATIONS



RIMA ARCHYTIS

Digital image by Howard Eskildsen - Ocala, Florida, USA

May 24, 2007 - 01:07 UT - Seeing: 8/10 - Trans: 5/6

Meade 6 inch f/8 Refractor - 2x Barlow

Orion StarShoot II Camera

LAST QUARTER MOON

Digital image by Michael Boschat

Halifax, Nova Scotia, Canada

June 8, 2007 - 07:35 UT

Seeing: 6-7/10 - Trans: 4/6

Runibar 10cm f/10 Maksutov

Contrios 3.0 MP DSC-3020 Camera



BANDED CRATERS PROGRAM

Coordinator - William M. Dembowski, FRAS

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

NOTE FROM PROGRAM COORDINATOR:

In order to maximize the data submitted to the Banded Crater Program (BCP) observations should be submitted on the forms provided on the BCP Website. A digitized version for use with Adobe Photoshop and Photoshop Elements is now available. Unfortunately, files in this format cannot be uploaded to the BCP website but they can be obtained via email from the Program Coordinator. The Photoshop forms were used by both of this month's contributors.

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

Crater Observed: Pytheas

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: Orion Starshoot II, 2X Barlow, Filters: None

Seeing: 7/10 Transparency: 3/6

Date (UT): 2007/05/05 Time (UT): 09:56

Colongitude: 129.0°

Position of crater:	Selen. Long.	Selen. Lat.
	20.6° West	20.5° North

Lunar Atlas Used as Reference: Virtual Moon Atlas Expert Version 2.1 2004-11-07

Image (north up):

Comments:



Two horizontal bright bands are visible in this photo. The lower is in the bottom third of the crater, while the other is just above the center of the crater. The dark interior of the crater is irregular in shape, and the rim is mostly bright with a few tiny dark interruptions. Rays from Copernicus streak across the area in spectacular fashion.

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

Crater Observed: Aristarchus

Observer: Wayne Bailey

Observing Station: Sewell, NJ

Mailing Address: 17 Autumn Lane, Sewell, NJ 08080

Telescope: Celestron SCT 28 cm $f/10$ + 2x barlow

Imaging: Skynyx 2-1M Filters: Schuler IR72

Seeing: 5/10 Transparency: 2/6

Date (UT): 2007/05/29 Time (UT): 01:51

Colongitude: 57.6 Latitude: +1.6

Position of crater: Selen. Long. Selen. Lat.
47.4° West 23.7° North

Lunar Atlas Used as Reference: Rukl, Atlas of the Moon, Revised Updated Ed.

Comments: Two light bands on interior of southwest wall continue outside towards Herodotus. Do the light markings on the exterior east wall correspond to interior bands that are now in shadow?

Image (North up): (East right):



LUNAR TRANSIENT PHENOMENA

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

LTP NEWSLETTER - JULY 2007

Dr. Anthony Cook - Coordinator

Observations were received from the following observers for May: Clive Brook (Plymouth, UK), Maurice Collins (New Zealand), Marie Cook (Mundesley, UK) and myself (Nottingham), and Gerald North (Narborough, UK).

I forgot to mention in last month's article, was anybody observing Aristarchus back on April 30 at approximately 22:40-23:50, only Marie Cook thought that she noticed that the bands were fainter than normal, and possibly some color through a moon blink? She also noticed possible variation in the brightness of Moltke and Torricelli B. Gerald North was also observing the same night, but noticed nothing unusual.

Not a lot to report in this month's article, however for those of you with internet connections, there is rather a good entry on LTP on the on-line encyclopedia <http://wikipedia.org>. Just go to this web site and type in "TLP". There are several abbreviations for TLP, so avoid the "Tanzanian Labour Party" and just click on "Transient lunar phenomena". You will see a very good impartial view of all historical and current LTP research to date.

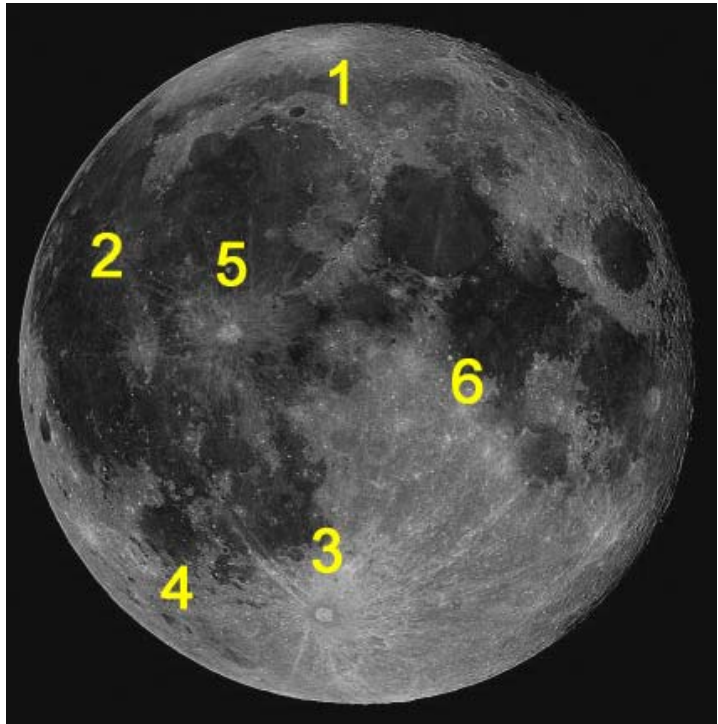
Hopefully I will have more interesting things to discuss next month with the planned launch of the Japanese SELENE mission in August.

Further 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

KEY TO IMAGES IN THIS ISSUE

1. Archytis (Rima)
2. Aristarchus
3. Deslandres
4. Noggerath
5. Pytheas
6. Theophilus



THE MOON IN THE NEWS

(Scientific American) Possible link between TLPs and radon gas:

<http://www.sciam.com/article.cfm?articleid=699CE1CC-E7F2-99DF-3F7ED3707CAE0277&chanId=sa026>

(New Scientist) Radio astronomy from the Moon:

<http://space.newscientist.com/article/dn12019-far-side-could-be-ideal-for-radio-observatory.html>

(USA Today) Commentary on the new race to the Moon:

http://news.yahoo.com/s/usatoday/20070606/cm_usatoday/thenewspacerace

(NASA Astrobiology Magazine) Using the Moon to study the Earth:

<http://www.astrobio.net/news/modules.php?op=modload&name=News&file=article&sid=2354&mode=thread&order=0&thold=0>

(Belfast Telegraph) 50 Things about the Moon (some facts, some silliness)

<http://www.belfasttelegraph.co.uk/features/daily-features/article2626125.ece>