



THE LUNAR OBSERVER

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

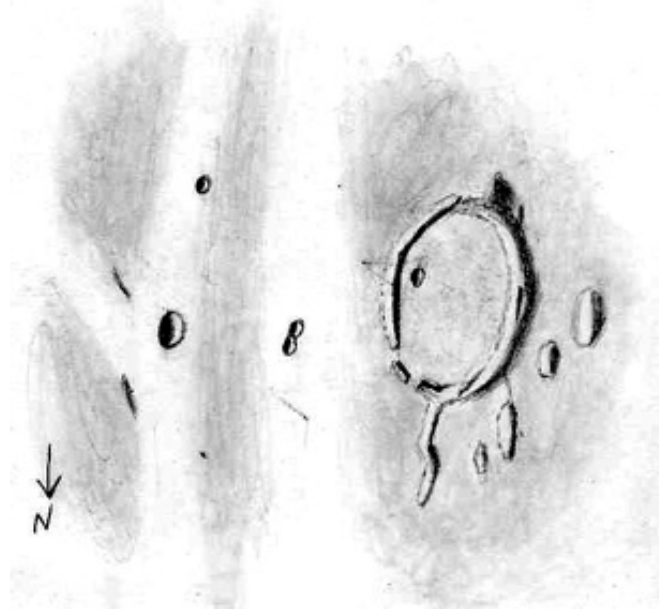
A PUBLICATION OF THE LUNAR SECTION OF THE A.L.P.O.

EDITED BY: William M. Dembowski, F.R.A.S. - dembowski@zone-vx.com

Elton Moonshine Observatory - <http://www.zone-vx.com>

219 Old Bedford Pike (Elton) - Windber, PA 15963

FEATURE OF THE MONTH - SEPT. 2007



COOK

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

April 22, 2007 - 02:45 to 03:07 UT

15cm Newtonian - 170x - Seeing 6/10

I sketched this crater and vicinity on the evening of April 21/22, 2007 while watching eight occultations. This crater is near the southern tip of Mare Fecunditatis, and it was well placed for observation that night. Cook is a shallow crater with two breaks in its northeast rim. The interior is very smooth except for the pit Cook A inside the southeast rim. Cook has obviously been flooded by Mare Fecunditatis. Its west rim is thickest with either a slump or some terracing there. There are some hills and ridges near the north and west rims and some strips of shadow along the south rim. There is a noticeable kink in the southeast rim near Cook A. A double pit/ unlabeled on the LQ map, is east of Cook, and the larger crater beyond them is Cook B. The pit south of B is, Cook C. Two poorly defined, moderately bright, north-south streaks are east of Cook, and take in the previously mentioned small craters. One of them branched off toward the southeast near Cook B.

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.

CALL FOR OBSERVATIONS: **FOCUS ON: Copernicus**

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 2007** edition will be the crater **Copernicus**. 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 Dembowski@zone-vx.com

Deadline for inclusion in the Copernicus article is October 20, 2007

Copernicus Transient Phenomena

WILLIAM DEMBOWSKI - LTSS COORDINATOR:

The crater Copernicus 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 Copernicus 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 Copernicus, for the months of September and October, 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 Copernicus 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 Copernicus

Compiled by Dr. Anthony Cook
Coordinator, LTP Section

Date	UT	Phase	Original observation with link to description
2007-Sep-05	05:16-05:56	37%	Brook 1996-Sep-06 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9265
2007-Sep-20	23:14-00:06	62%	Firsoff 1955-Jul-28 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1730
2007-Oct-03	22:32-00:13	43%	Haas 1939-Sep-06 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1005
2007-Oct-04	17:00-18:37	35%	Brook 1996-Sep-06 http://www.cs.nott.ac.uk/~acc/Lunar/Events/9265
2007-Oct-20	11:30-13:16	62%	Firsoff 1955-Jul-28 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1730
2007-Oct-20	15:34-17:21	64%	Heldervari 1969-Nov-18 http://www.cs.nott.ac.uk/~acc/Lunar/Events/6380
2007-Oct-20	21:28-00:50	66%	Lovell 1966-Mar-02 http://www.cs.nott.ac.uk/~acc/Lunar/Events/3805
2007-Oct-27	12:31-14:27	96%	Robinson 1975-Jul-24 http://www.cs.nott.ac.uk/~acc/Lunar/Events/8180
2007-Oct-28	09:23-11:16	92%	Corralitos 1968-Dec-07 http://www.cs.nott.ac.uk/~acc/Lunar/Events/5690
2007-Oct-31	07:48-09:43	66%	Firsoff 1955-Sep-07 http://www.cs.nott.ac.uk/~acc/Lunar/Events/1785

The above schedule is for repeat illumination to within +/-0.5 deg and it is the observer's responsibility to make sure that the Moon is sufficiently high above their horizon e.g. 20 deg.

LUNAR CALENDAR - SEPTEMBER 2007 (UT)

Sep. 04	02:34	Last Quarter
Sep. 04	13:00	Moon 5.9 Degrees N of Mars
Sep. 09	01:00	Moon 8.7 Degrees NNE of Venus
Sep. 10	02:00	Moon 0.76 Degrees SW of Saturn
Sep. 11	12:44	New Moon (Start of Lunation 1048)
Sep. 13	11:00	Moon 2.2 Degrees SSW of Mercury
Sep. 15	21:07	Moon at Apogee (405644 km - 252056 miles)
Sep. 19	16:48	First Quarter
Sep. 22	20:00	Moon 1.3 Degrees SSE of Neptune
Sep. 25	16:00	Moon 1.6 Degrees NNW of Uranus
Sep. 26	19:46	Full Moon

FOCUS ON: Proclus & Palus Somni

William M. Dembowski, FRAS

Coordinator, Lunar Topographical Studies

Proclus may be the easiest to find 28km crater on the Moon. Yet, at the same time, it may be one of the most difficult to study in detail. Located about 70km west of Mare Crisium, Proclus virtually shouts its presence with a brilliant interior and ray system that make it the second brightest crater on the Moon; Aristarchus being number one. (Figure 1)



Figure 1

**Digital image by
Guilherme Grassman
Americana, Brasil**

September 3, 2006 - 20:55:58 UT

Seeing: 8/10 - Trans: 5/6

10 inch f/10 SCT

Philips Toucam Pro

Proclus has a distinctly polygonal shape and a depth of approximately 2,400 meters. On the floor of the crater is a series of low mountains while dusky bands traverse the inner walls (Figure 2). Both of these features can be difficult to observe because of the brightness of the interior. The most distinctive feature of the crater is, of course, its ray system.

Figure 2

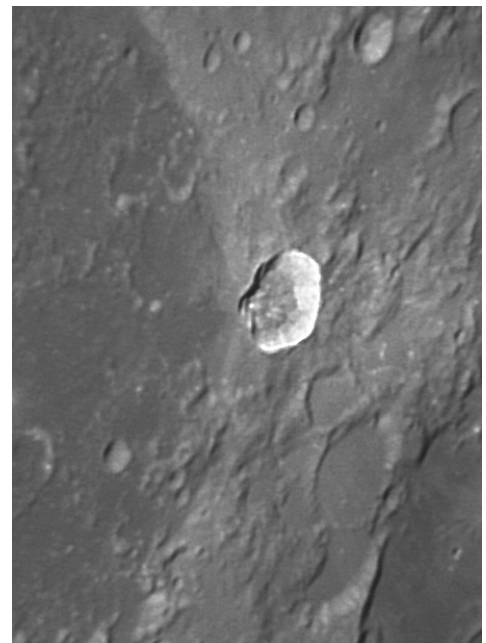
**Digital image by K.C. Pau
Hong Kong, China**

October 11, 2003 - 17:56 UT

Colongitude: 103 - Seeing: 4/10

10 inch f/6 Newtonian Reflector

5x Barlow - Philips Toucam Pro



The ray system of Proclus is strikingly asymmetrical with a 140 degree gap to the southwest. This fan-shaped pattern is the result of a very oblique impact from the direction of the gap. The rays bordering this gap are the brightest and longest, about 150km, and serve to delineate the Palus Somni. The true nature of Palus Somni, the Marsh of Sleep, was not clearly understood for many years. In fact, as recently as the early 1960's, Dinsmore Alter (Director Emeritus of the Griffith Observatory) believed it was the result of a "partial sinking" of the lunar surface. We now know that it is simply a region that was not covered by the Proclus rays following the initial impact and not the cause of their obscuration at some later date.



Figure 3
Digital image by Wayne Bailey
Sewell, New Jersey, USA
August 2, 2007 - 04:14 UT
Colong: 133 - Seeing: 3/10
Celestron 11 inch f/10 SCT
Lumenera Skynyx 201M Camera
Schuler IR72 Filter



Figure 4
Digital image by Ed Crandall
Winston-Salem, North Carolina, USA
February 23, 2007 - 23:49 UT
Seeing: 5/10 - Trans: 4/6
110mm f/6.5 APO Refractor
3x Barlow - Philips Toucam

Although not a separate and distinct lunar feature, Palus Somni is still a rewarding telescopic sight with a number of shallow depressions, craterlets, and hillocks under a low sun (Figures 3 & 4) and a nice array of bright spots under a high sun.

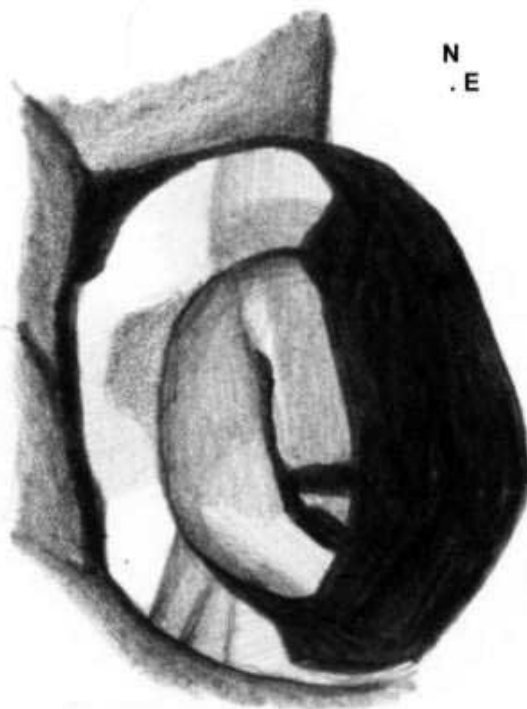
REFERENCES:

- Alter, Dinsmore - "Pictorial Guide to the Moon", Thomas Crowell Co. (1963)
Grego, Peter - "The Moon and How to Observe It", Springer-Verlag (2005)
Moore, Patrick - "Patrick Moore on the Moon", Cassell & Company (2001)
Wood, Charles A. - "The Modern Moon: A Personal View", Sky Publishing (2003)

OTHER PROCLUS / PALUS SOMNI OBSERVATIONS



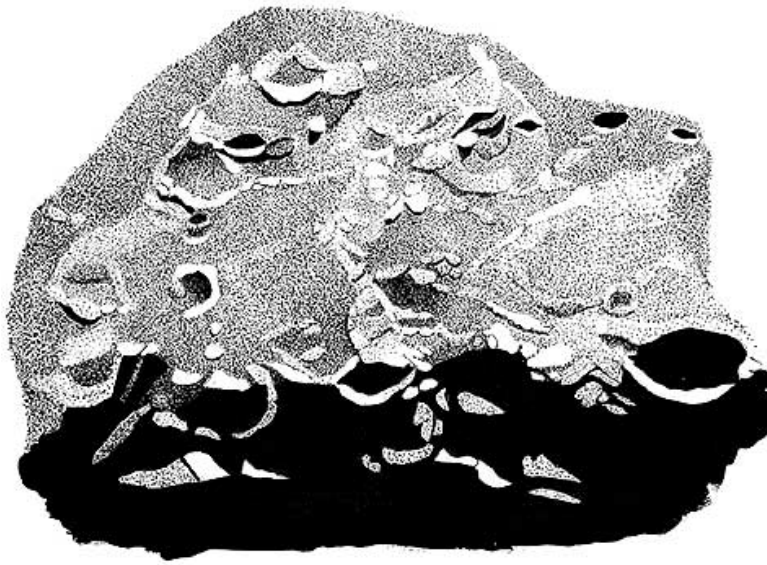
**Digital image by Larry Todd - Dunedin, New Zealand
September 8, 2006 - 22:29
OMC200 f/20 Maksutov - Opticstar 122 camera**



**Drawing by Peter Grego - Rednal, Birmingham, England
May 20, 1999 - 21:00 to 21:25 UT - Colong: 226.1 to 336.4
250mm Newtonian Reflector - 240x**

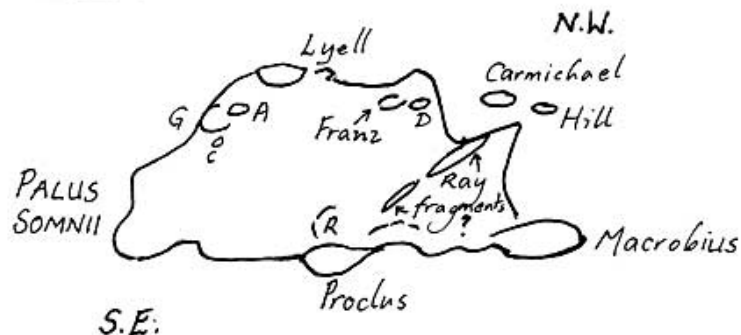
Proclus and Palus Somnii

Colin Ebdon - Colchester, Essex, England



November 14, 2000 - 22:15 to 23:15 UT - Colongitude 131.07 to 131.57
10 inch f/6.5 Newtonian Reflector - Seeing: AIII - Transparency: Good

KEY TO DRAWING:



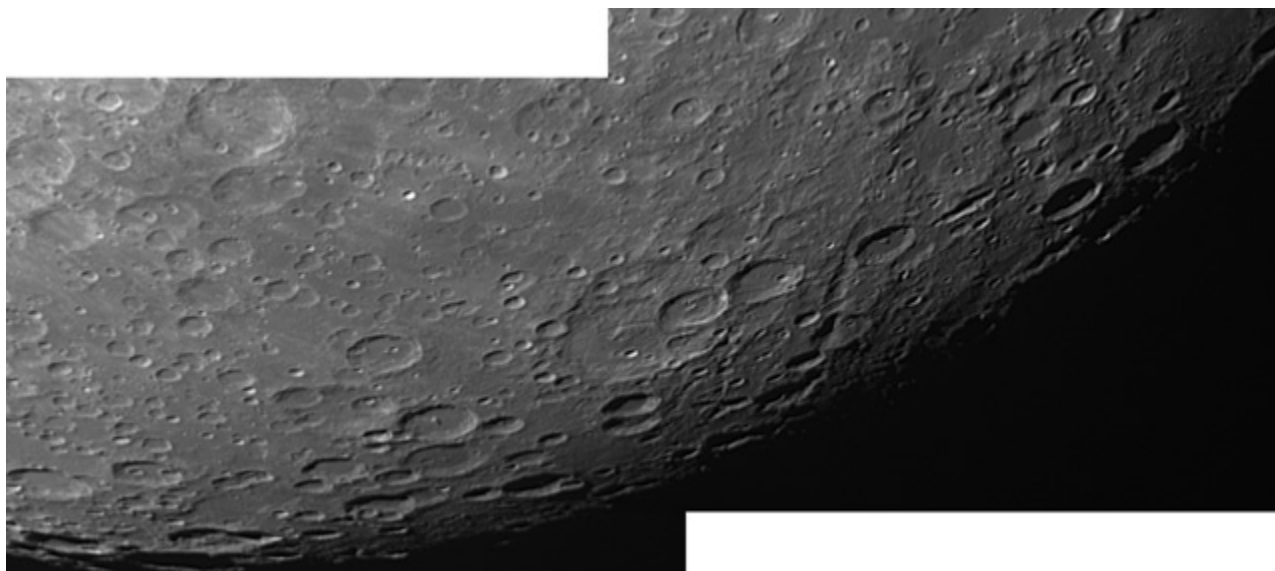
OBSERVING NOTES:

Under high lighting conditions, The Palus Somnii (Marsh of Sleep) appears as a fairly smooth, diamond-shaped area, bordered to the East by the main ray system of Proclus. It has a distinctive grey colouration which marks it out from the surrounding Mare and regolith.

At the time of this observation, however, it appeared as rugged as the surrounding areas. There was no sign of the Proclus ray system under such low lighting, except that the line of the most prominent ray, which runs SE to -NW., towards the crater Hill, was clearly marked out by two thin, elongated bright patches as shown. These may, or may not, have been ejecta material.

SOUTHEAST REGION OF THE MOON

Text and all images by Wayne Bailey



**August 1, 2007 - 03:59 UT - Colongitude: 120.7 - Seeing: 4/10 - Trans: 4/6
Celestron 11 inch SCT - Schuler IR72 Filter - Lumenera Skynyx 2-1M Camera**

These images are all of the southeastern region of the moon. I've largely ignored this region, mainly because it's harder to navigate without prominent mountains and maria as markers. The waxing terminator passes this area when the moon is still close to the sun in the evening sky, so it's only available low in the western sky after sunset or during daylight. The waning terminator passes shortly after full moon, so meridian passage occurs after midnight. When the moon is well positioned in the evening sky, this area is illuminated by a high sun.

The general appearance is a heavily cratered, flat plain. With a high sun, Tycho's rays are visible. These images all contain the area around the large craters Hommel and Pitiscus. When the sun elevation is high, the surface around these craters appears almost smooth and featureless, but as the terminator approaches, numerous small hills and chains of small craters appear.

**August 2, 2007 - 04:55 UT
Colongitude: 133.4
Seeing: 3/10 - Trans: 5/6
Celestron 11 inch SCT
Schuler IR72 Filter
Lumenera Skynyx 2-1M Camera**





August 3, 2007 - 07:01 UT
Colongitude: 146.6
Seeing: 4/10 - Trans: 3/6
Celestron 11 inch SCT
Schuler IR72 Filter
Lumenera Skynyx 2-1M Camera

An interesting feature, that's prominent on the August 3rd image, seems to begin at two ridges northeast of Jacobi A (possibly a damaged section of the rim of a crater overlain by Jacobi A), then continues as a rille past the south side of Tannerus, continuing eastward until it's lost in a small crater northwest of Hommel G. Part of this course is also marked by small hills and craters. Another nice chain of small craters curves around the south side of Mutus T to Mutus M. There also appears to be a subtle albedo boundary along a line from Mutus to Lilius.

Hommel is a shallow crater with several craters superimposed. The three craters, Hommel, Pitiscus and Vlacq all give me the impression that their inner walls are much steeper on the western side than the eastern, but this may be an illusion from differences in albedo across their floors. The plain to the north and east, between Pitiscus and Vlacq, up to Janssen is covered with small hills. Janssen is well known for it's complex interior. Several superimposed craters show that Janssen is an older crater. The floor appears to be convex, with intersecting rilles. One of the rilles cuts into the wall of Fabricius but doesn't appear to penetrate through it or continue across its floor. The northwest section of the interior contains two large terraces with a crater superimposed. The terraces appear too large to be due to wall slumps.



June 21, 2007 - 02:11 UT
Colongitude: 338.9
Seeing: 2/10 - Trans: 4/6
Celestron 11 inch SCT
Schuler IR72 Filter
Lumenera Skynyx 2-1M Camera

LUNAR TOPOGRAPHICAL STUDIES

Coordinator - William M. Dembowski, FRAS

dembowski@zone-vx.com

OBSERVATIONS RECEIVED

MICHAEL AMATO - WEST HAVEN, CONNECTICUT, USA

Ray map of Menelaus

WAYNE BAILEY - SEWELL, NEW JERSEY, USA

Digital images of Alphonsus & Ptolemaeus (4), Clavius (3), Deslandres & Tycho (4), Hommel & Janssen (2), Maurlolycus & Hommel, Palus Somni (2), Southeast Terminator, Theophilus (3)

Banded crater report forms with digital images of Anaxagoras (6), Aristillus (4), Conon (2), Proclus (5), Pytheas (4)

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND

Digital images of 8-day Moon, Central regions (8-day), Northern hemisphere ((8-day), Southern highlands (8-day), 13-day Moon, Schickard region, Mare Vaporum

ED CRANDALL - WINSTON-SALEM, NORTH CAROLINA, USA

Digital image of Proclus Ray

HOWARD ESKILDSEN - OCALA, FLORIDA, USA

Digital images of Conon & Montes Apenninus (2), Plateau near Dembowski (2)

Banded crater report forms with digital images of Anaxagoras, Ariadaeus (2), Aristarchus, Aristillus (2), Bode (2), Conon (3), Menelaus (2), Pytheas, Theaetetus

ALEXANDROS FILOTHODOROS - SAMOS, GREECE

Digital image and photometry values for Northeastern Quadrant

GUILHERME GRASSMANN - AMERICANA, BRASIL

Digital image of Proclus

FRANK J. MELILLO - HOLTSVILLE, NEW YORK, USA

Digital image of Yangel & Ina

KLAUS PETERSEN - GLINDE, GERMANY

Digital image of Aristoteles & Eudoxus to Hercules

LARRY TODD - DUNEDIN, NEW ZEALAND

Digital images of Proclus (10)

RECENT TOPOGRAPHICAL OBSERVATIONS



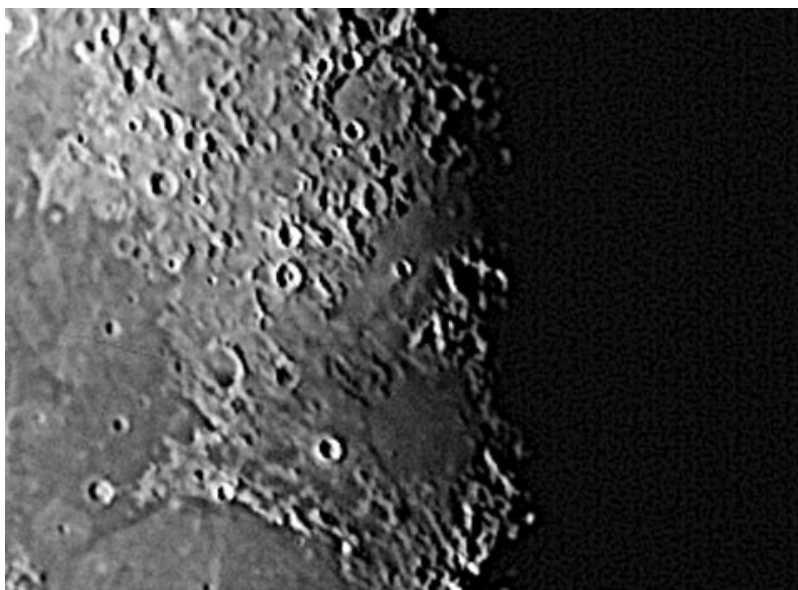
THEOPHILUS, CYRILLUS, CATHARINA

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

August 3, 2007 - 06:33 UT - Colongitude: 146.7

Seeing: 4/10 - Trans: 3/6 - Schuler IR72 Filter

Celestron 11 inch f/10 SCT - Lumenera Skynyx 2-1M



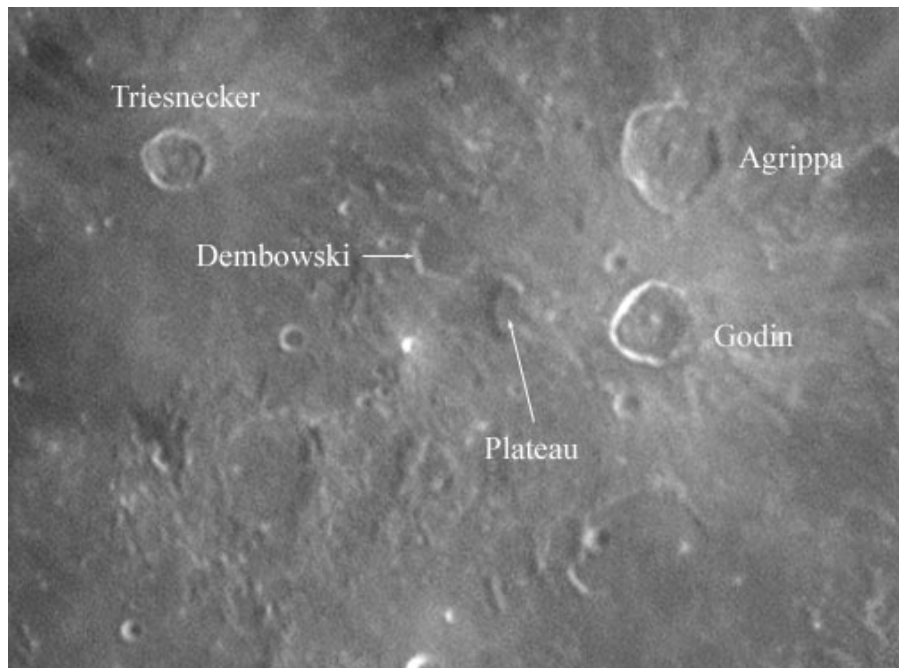
MARE VAPORUM

Digital image by Maurice Collins - Palmerston North, New Zealand

July 22, 2007 - Approximately 09:00 UT - Seeing: 3/5

Meade ETX90 - Fuji A800 (Movie mode)

RECENT TOPOGRAPHICAL OBSERVATIONS



PLATEAU NEAR DEMBOWSKI

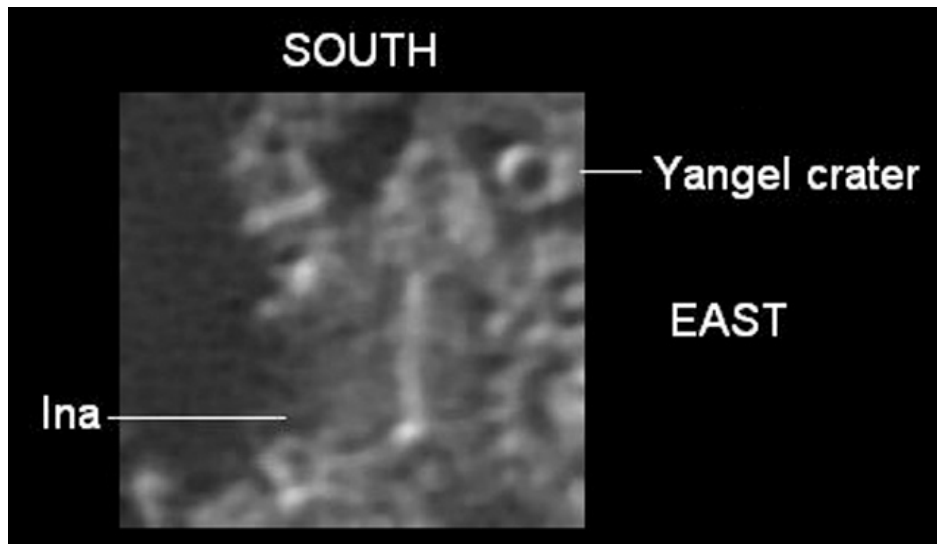
**Cropped digital image by Howard Eskildsen - Ocala, Florida, USA
July 26, 2007 - 00:46 UT - Colongitude: 46.4 - Seeing: 7/10
Meade 15.2cm f/8 Refractor - 2x Barlow - Orion StarShoot II Camera**



NORTHCENTRAL REGION

**Digital image by Alexandros Filothodoros - Samos, Greece
July 28, 2007 - 22:53:40 UT - Seeing: 6/10 - Trans: 3/6
80mm f/7.5 ED APO Refractor - ATIK 16HR webcam, IR- cut filter**

RECENT TOPOGRAPHICAL OBSERVATIONS



INA & YANGEL

Digital image by Frank Melillo - Holtsville, New York, USA
August 5, 2007 - 10:15 UT - (1/2 hour after sunrise) - Seeing 4-5/10
Meade 10 inch LX200 SCT - Starlight Express MX-5
Exposure 5 seconds at f/25 - Wr.#25 Red Filter



ARISTOTELES & EUDOXUS TO HERCULES

Digital image by Klaus Petersen - Glinde, Germany
March 25, 2007 - 18:17 UT - Seeing 6/10
Meade 8 inch f/10 LX200 SCT - Philips Toucam - IR Block Filter

BANDED CRATERS PROGRAM

Coordinator - William M. Dembowski, FRAS

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

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

Crater Observed: Aristillus

Observer: Wayne Bailey

Observing Station: Sewell, NJ

Mailing Address: 17 Autumn Lane, Sewell, NJ 08080

Telescope: Celestron SCT 28 cm f/10

Imaging: Skynyx 2-1M Filters: Schuler IR72

Seeing: 4/10 Transparency: 4/6

Date (UT): 2007/08/01 Time (UT): 04:28

Colongitude: 121.0 Latitude: +0.8

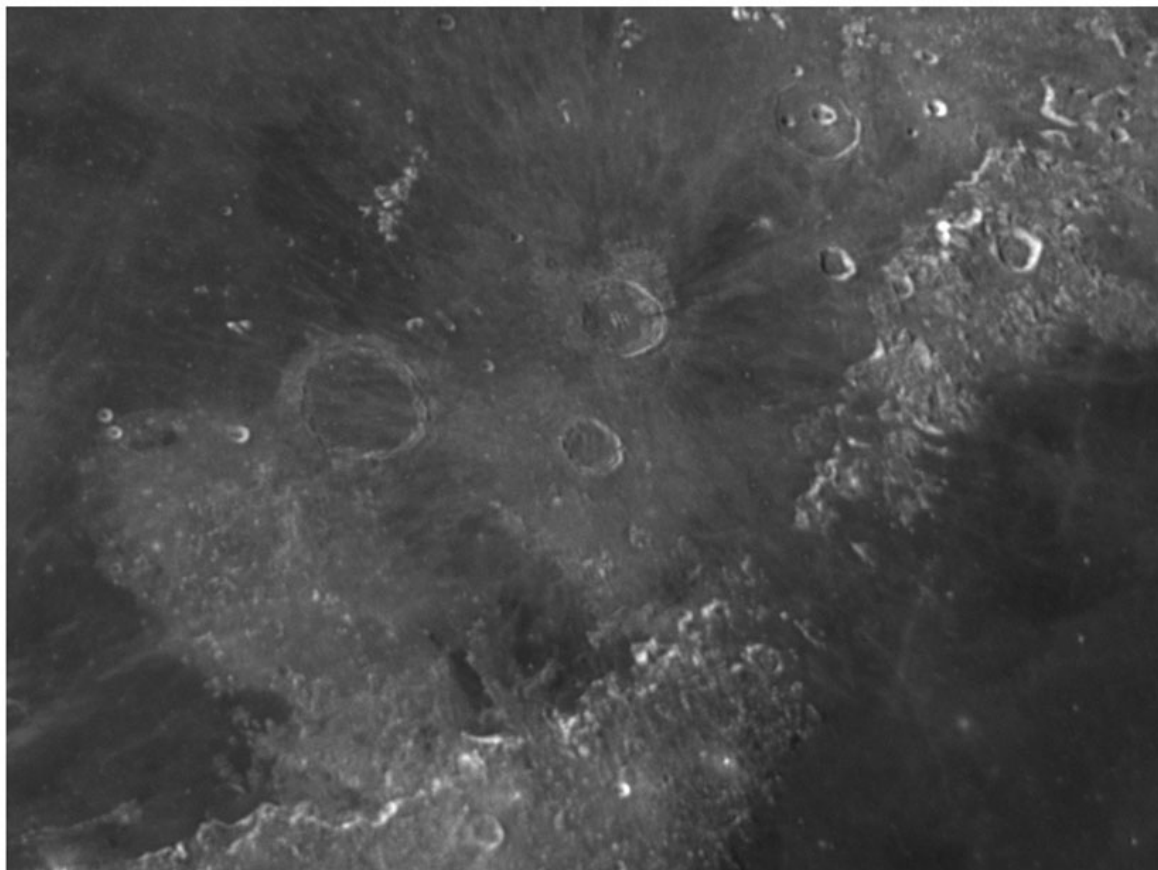
Position of crater: Selen. Long. Selen. Lat.
1.2° East 33.9° North

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

Comments:

1. Bright, eastern inner wall is divided by narrow dark band which extends from floor across the rim and outer wall towards Theaetetus, marking the southeast edge of the textured rectangular area that overlaps the northeast wall of Aristillus.
2. Banded crater Theaetetus is northeast of Aristillus. Bright spot and faint broad bands on eastern wall.

Image (North up): (East right):



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, 5X Barlow, Filters: None

Seeing: 9/10 Transparency: 4/6

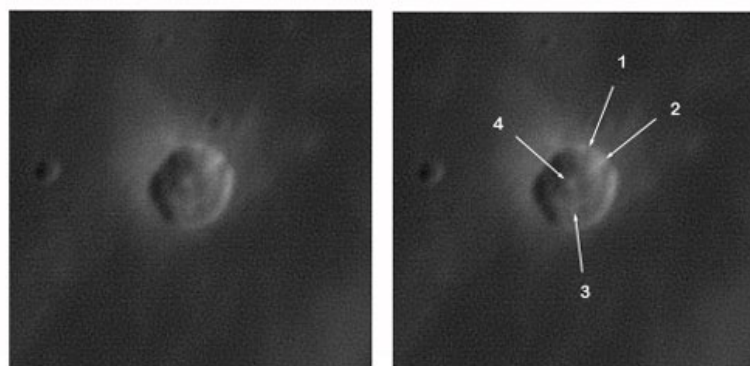
Date (UT): 2007/07/06 Time (UT): 10:11

Colongitude: 167.1°

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:

A dark band (arrow 1) and a bright band (arrow 2) appear in the northeast portion of the crater. A bright arc (arrow 3) passes along the southern third of the crater and has a thickened knob at the tip of the arrow. This most likely represents slough material rather than an off-center central peak. The other bright area (arrow 4) could represent a central peak, but based on observations I think it is more likely a mound of sloughed wall material as well. This would correlate with the irregular shape of the rim.

A.L.P.O. Lunar Section - Banded Craters Observing Form

Crater Observed: Kepler

Observer: William M. Dembowski Observing Station: Elton Moonshine Observatory

Mailing Address: 219 Old Bedford Pike, Windber, PA 15963

Telescope: Celestron SCT 20 cm f/10

Imaging: Celestron NexImage Filters:

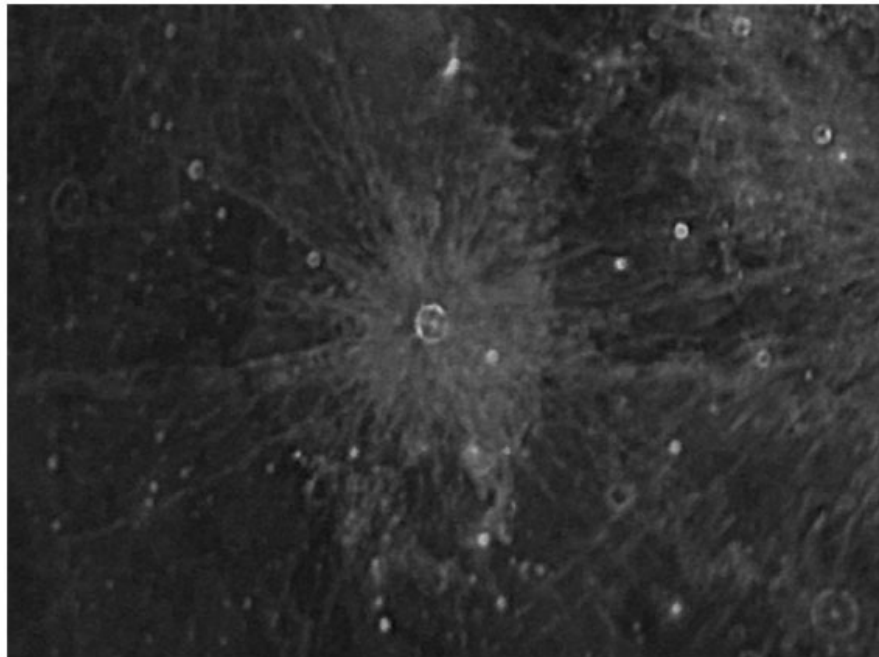
Seeing: 4/10 Transparency: 3/6

Date (UT): 2007/07/31 Time (UT): 03:31

Colongitude: 108.1

Image: (North up) (East right)

Comments: Highest albedo areas between dark bands extend from approximately the 11 o'clock position to the 2 o'clock position and from 7 o'clock to 8 o'clock.



LUNAR TRANSIENT PHENOMENA

Coordinator – Dr. Anthony Cook – acc@cs.nott.ac.uk

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

LTP NEWSLETTER - SEPTEMBER 2007

Dr. Anthony Cook - Coordinator

Observations were received from the following observers for July: Maurice Collins (New Zealand). July seems to have been a very bad month to go looking for the Moon, weather-wise, except from New Zealand?

This month I thought I would summarize the prequel to the paper from Prof Arlin Crott's that I discussed last month. Again I would just like to stress that as far as I am aware these series of papers have not been past the referee stage in the Icarus and Astrophysics journals and made it into print yet. However they are available for all to read on the following web site:
<http://www.astro.columbia.edu/~arlin/TLP/> at Columbia University in the US. So my summary is based upon these pre-published versions. In the prequel paper, referred to as "paper 0". Prof Crotts describes again how he analyzed the statistics of reliable TLP reports and allowed for observational bias factors such as infamous TLP sites (e.g. Aristarchus) that everybody wants to watch, the geographical location of sites on the Moon, and geographical location of the observer. The paper runs to 45 pages in the PDF version on-line, so instead a bullet point summary version is given below and a listing of the sections:

All reliable reports binned into 300x300 km sided grid cells.

After allowing for the: "before" and "after" TLPs became a famous effect e.g. 1960's onwards (as was discussed last month), it is found that approximately 50% of TLPs are connected with Aristarchus and its surrounds.

A comparison of TLP site locations with Apollo and Lunar Prospector Radon outgassing maps show a strong correlation.

After the introduction, the paper is broken up into the following sections:

2.1 The Troublesome Nature of TLP Observations

2.2 The TLP Observers – although a good set of reliable, experienced and famous observers are given, it must be said that the paper's use of the Apollo 11 reports of glows on the darkside is a bit weak because if one reads the Apollo transcripts, it is not such a clear and cut case of the astronauts seeing a definite TLP.

2.3 Photographic Evidence – here the paper highlights the Alter photographic evidence for TLP – however it does not discuss the effects of focus at different wavelengths and scattered light as a possible explanation for Alter's 1956 report. It does however detail the Dollfus polarized light images of Langrenus crater – where there maybe a possible lunar dust cloud explanation.

2.4 Patrols and Systematic TLP searches – a good history of many past attempts is given, including the Moon Blink and Corallitos Observatory teams

2.5 Description and Distribution of TLP reports – all reports by Bartlett are rejected on safety grounds. It is noticed that TLP seem to avoid highland areas, and the section concludes that most TLP are not impact related phenomenon.

2.6 Observer Selection Bias and Correlation Effects – the author suspects that there was a drop in the number of TLP being detected when photography was introduced as this technique, although being used readily at professional observatories, was not as sensitive as the eye.

2.7 Statistically Consistent TLP Spatial Distribution - approximately 50% of TLPs are connected with Aristarchus and its surrounds, ~16% are associated with Plato, and ~6% each from Copernicus, Kepler and Tycho, 7% for Mare Crisium, and a few percent for Grimaldi. Other caters do yield TLP but apparently at much lower levels.

3.1 The TLP Controversy – the author responds with good arguments to counter many of Sheehan and Dobbins criticisms of TLPs in their 1999 Sky and Telescope article.

I will cover the other papers in the next few months. If you want to read these excellent papers in more detail, then please see them on the above web site.

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 TLP 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 TLP, 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!

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

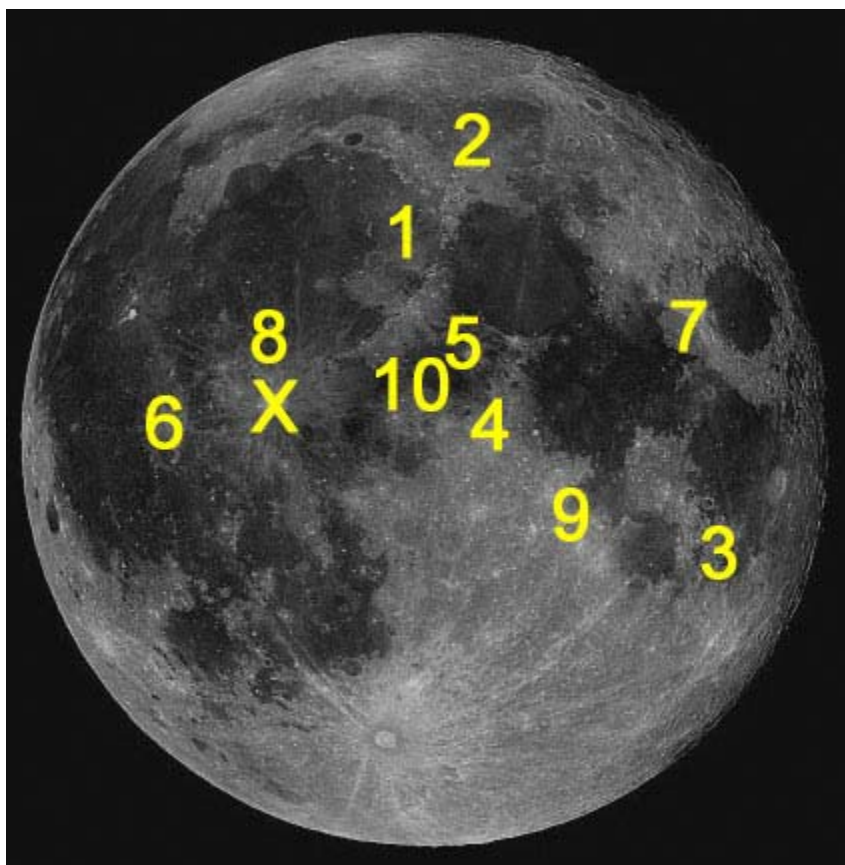
In addition to information specifically related to the observing program being addressed, the following data should always be included:

- 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)

KEY TO IMAGES IN THIS ISSUE

1. Aristillus
2. Aristoteles
3. Cook
4. Dembowski
5. Ina
6. Kepler
7. Proclus
8. Pytheas
9. Theophilus
10. Vaporum, Mare

X Copernicus
(Next Focus On Subject)



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