

THE LUNAR OBSERVER

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

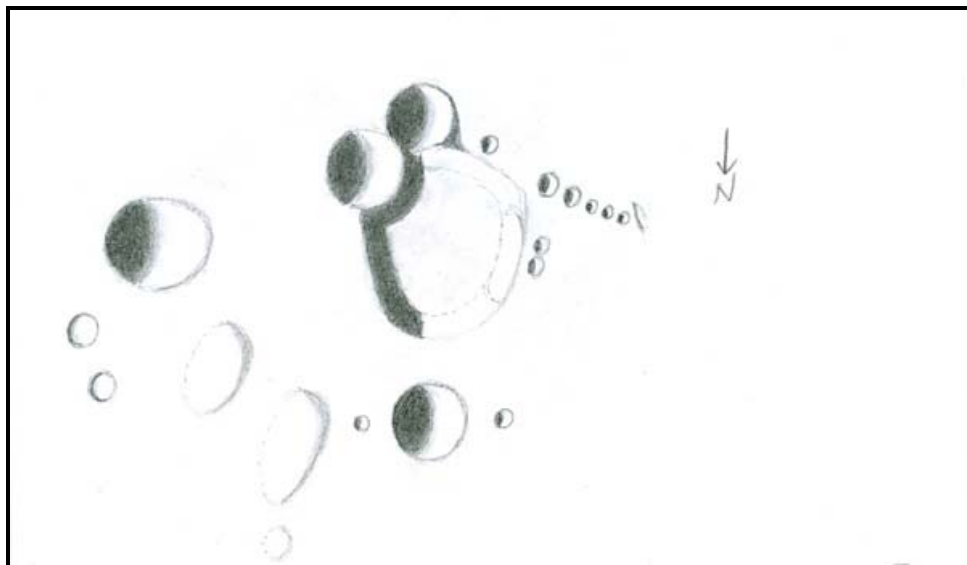
EDITED BY: Wayne Bailey wayne.bailey@alpo-astronomy.org

17 Autumn Lane, Sewell, NJ 08080

RECENT BACK ISSUES: http://moon.scopesandscapes.com/tlo_back.html

FEATURE OF THE MONTH – SEPTEMBER 2009

MÜLLER



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

April 4, 2009 3:28-3:54 UT

15 cm refl, 170x, seeing 7

I drew this crater and surroundings on the evening of April 3/4, 2009 before the moon hid theta Cancri. This crater is located between Hipparchus and Ptolemaeus. It is somewhat irregular with a flat east rim, a rounded north and west rim and an angular south side. Its floor appeared smooth and featureless. The southeast rim of Müller appears to be pushed in by the crater Müller O, and Müller A is the similar crater on the south end of Müller. The Lunar Quadrant Map shows Müller A intruding into Müller, but I did not

see it that way. Hipparchus J is the large crater east of Müller. This crater has a noticeable east-west elongation. Hipparchus T and U are smaller shallow craters north of Hipparchus J. Hipparchus K is the large round crater just north of Müller. It appears similar to Müller 0 and A. Hipparchus B is the modest crater west of K and a smaller pit is east of Hipparchus K. A few large, low mounds lie between Hipparchus K and J. Müller F is the largest crater of a chain that extends northwestward toward the north rim of Ptolemaeus. I noted four small pits gradually decreasing in size away from Müller F, then a very elongated crater or a short rille. There is a small pit between Müller A and F and a tight pair just west of Müller, north of Müller F. The LQ map shows one unlabeled crater at that spot, but I saw two there. These pits are near a particularly bright area of Müller's inside wall.

LUNAR CALENDAR

SEPTEMBER-OCTOBER 2009 (UT)

Sept. 02	19:00	Moon 2.9 Degrees NNW of Jupiter
Sept. 03	05:00	Moon 2.6 Degrees NNW of Neptune
Sept. 04	16:03	Full Moon
Sept. 05	16:00	Moon 5.0 Degrees NNW of Uranus
Sept. 12	02:16	Last Quarter
Sept. 13	17:00	Moon 1.1 Degrees NNE of Mars
Sept. 15	10:00	Moon 1.4 Degrees SSW of asteroid Vesta
Sept. 16	07:57	Moon at Perigee (364,053 km - 226,212 miles)
Sept. 16	16:00	Moon 3.0 Degrees SSW of Venus
Sept. 18	17:00	Moon 6.2 Degrees SSW of Saturn
Sept. 18	18:43	New Moon (Start of Lunation 1073)
Sept. 18	24:00	Moon 1.1 Degrees SSW of Mercury
Sept. 26	04:48	First Quarter
Sept. 28	03:34	Moon at Apogee (404,431 km - 251,302 miles)
Sept. 29	22:00	Moon 2.8 Degrees NNW of Jupiter
Sept. 30	11:00	Moon 2.7 Degrees NNW of Neptune
Oct. 02	22:00	Moon 5.0 Degrees NNW of Uranus
Oct. 04	06:11	Full Moon
Oct. 11	08:56	Last Quarter
Oct. 12	01:00	Moon 1.1 Degrees SSW of Mars
Oct. 13	12:29	Moon at Perigee (369,067 km - 229,328 miles)
Oct. 16	07:00	Moon 6.4 Degrees SSW of Saturn
Oct. 16	14:00	Moon 6.1 Degrees SSW of Venus
Oct. 17	05:00	Moon 6.8 Degrees SSW of Mercury
Oct. 18	05:32	New Moon (Start of Lunation 1074)
Oct. 25	23:19	Moon at Apogee (404,166 km - 251,137 miles)
Oct. 26	00:41	First Quarter
Oct. 27	06:00	Moon 3.0 Degrees NNW of Jupiter
Oct. 27	19:00	Moon 2.9 Degrees NNW of Neptune
Oct. 30	04:00	Moon 5.1 Degrees NNW of Uranus

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. Additional information about the A.L.P.O. and its Journal can be found on-line at: <http://www.alpo-astronomy.org/index.htm> I invite you to spend a few minutes browsing the Section Pages to learn more about the fine work being done by your fellow amateur astronomers.

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

Note: The published images now contain links to the original, full resolution images. Clicking on an image while connected to the internet, will download the original image, which in some cases is significantly higher resolution than the published version.

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: Menelaus

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 2009** edition will be Menelaus. 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 banded & ray crater to your observing list and send your favorites to:

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

Deadline for inclusion in the Menelaus article is October 20, 2009

FUTURE FOCUS ON ARTICLES:

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

Atlas & Hercules	TLO Issue: Jan. 2010	Deadline: Dec. 20, 2009
Snellius-Furnerius	TLO Issue: Mar. 2010	Deadline: Feb. 20, 2009

CHANDRAYAAN-1 LOST

On August 27, 2009 20:00 UT the Indian Space Research Organization abruptly lost contact with their lunar satellite during a communications link. The planned two-year mission was declared terminated, with 90-95% of its science goals accomplished, on August 29, 2009. The cause of the communication failure has not been determined. For more information see <http://www.chandrayaan-i.com/>.

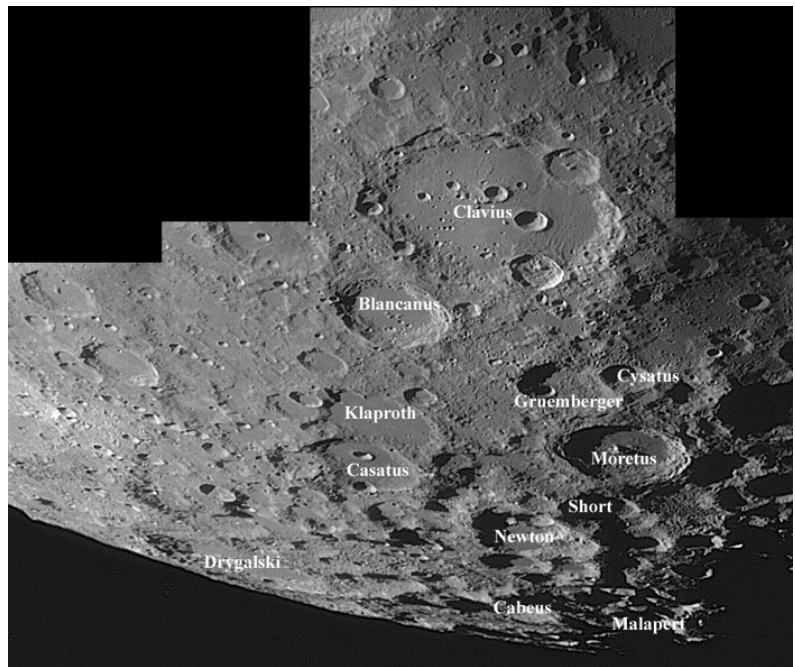
LCROSS STATUS

LCROSS has so far completed all scheduled instrument calibration and alignment checks. However, in between scheduled communications times on August 22, 2009, an anomaly occurred with the rate sensors in the inertial reference unit that caused the spacecraft to switch to the star trackers for attitude rate information. Star trackers are good for accurate attitude determination, but not as good for attitude rate information. As a result the attitude control thrusters fired excessively until the next scheduled contact with the ground. This used about 309 lbs (140 kg) of fuel, leaving contingency fuel reserve at about 20-40 lbs, which is about the minimum expected at the time of impact on Oct. 9th. The problem appears to be solved, but is still being studied. Mission managers expect to complete the mission (assuming no additional major problems), but optional goals may have to be deleted.

Howard Eskildsen submitted an image (figure 1) of the lunar south polar region with craters labeled which may be helpful to anyone attempting to observe the impact or resulting plume.

Figure 1: **South Polar Region** - Howard Eskildsen, Ocala, Florida, USA. August 12, 2009 10:15 UT. Seeing 8/10, Transparency 3/6. Meade 6" f/8 refractor, 5x telextender, no filters, Orion Starshoot II.

Please submit any observations to me wayne.bailey@alpo-astronomy.org, Dr. Anthony Cook atc@aber.ac.uk, and David O. Darling DOD121252@aol.com. For current information see http://www.nasa.gov/mission_pages/LCROSS/main/ and <http://lcross.nasa.arc.gov>.



HIGH-SUN OBSERVING: COPERNICUS

William M. Dembowski, FRAS

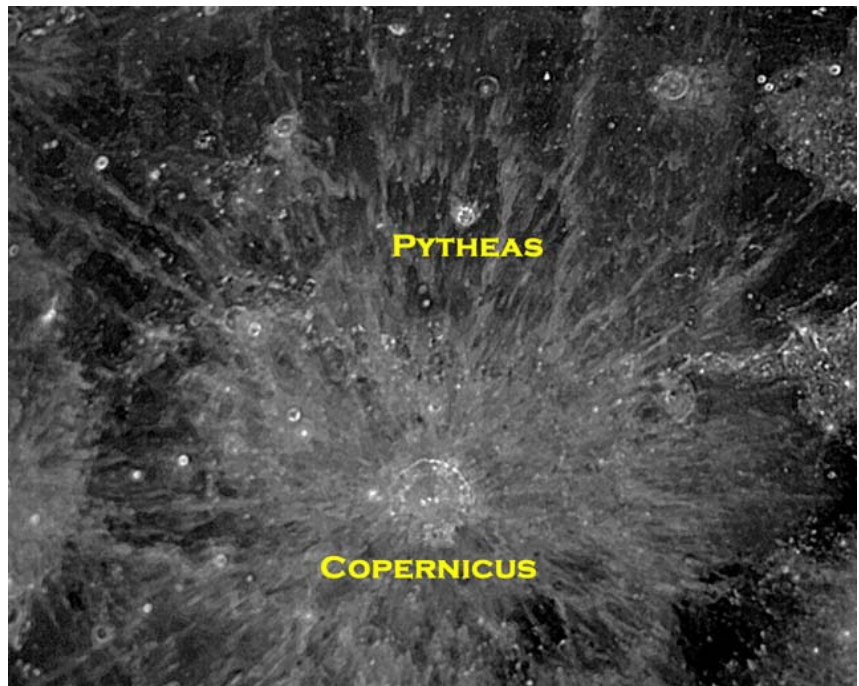
Assistant Coordinator, Lunar Topographical Studies

Observing the Moon under a high-sun takes a little practice but is mostly a matter of using a different set of landmarks. Copernicus (93km – 58miles) is one of the easiest craters to locate and, therefore, is one of those high-sun landmarks (fig. 1). With a ray system that is second only to Tycho's, it stands out brightly just south of Mare Imbrium.

Many craters lose their internal details under a high sun; the trio of bright peaks within Copernicus, however, stands out nicely. Even the walls can be traced around the complete circumference of the crater.

Not all bright impact rays are identical in appearance. Some are arrow-straight and sharply defined, others are more feathery, and some even form great loops on the lunar surface. Many rays of the Copernican system, particularly those to the north

Figure 1: **Copernicus Area** -
William M. Dembowski, FRAS -
Elton, Pennsylvania, USA. July 31,
2007 04:10 UT. Colongitude 108.5°,
Seeing 4/10, Transparency 2/6, C8
f/10 SCT, Orion StarShoot II, UV/IR
Cutoff filter



and southwest, are obviously the result of secondary impacts; craters and rays which were created by large chunks of lunar material thrown from the primary crater during the initial impact. In spite of their variety, or perhaps because of it, no widely accepted method of ray classification has ever been devised.

Determining the full extent of the Copernican rays can be difficult, especially to the west and northwest where they interact with those of Kepler and Aristarchus. Following the paths of the longer rays and plotting them on copies of the Lunar Quadrant Maps can be a rewarding exercise especially in learning to find one's way around a Moon with few or no shadows.

One very interesting crater within the Copernican Ray System is Pytheas. What makes Pytheas so interesting are the light and dark bands which grace its inner walls. There are about 200 banded craters on the lunar near-side and Pytheas is one of the easier ones to locate. Finding a 12-1/2 mile crater under a high-sun sounds like a daunting task but with Copernicus as a landmark it is relatively easy.

To learn more about the A.L.P.O. Lunar Topographical Studies Section's Banded Crater Program visit: <http://moon.scopesandscapes.com/alpo-bcp.htm>

To learn more about the A.L.P.O. Lunar Topographical Studies Section's Bright Lunar Rays Project visit: <http://moon.scopesandscapes.com/ALPO Rays Project.htm>

FOCUS ON: Deslandres

By Wayne Bailey

Acting Coordinator: Lunar Topographical Studies

Deslandres is a large (234 km diameter), battered crater that lies just Southeast of Mare Nubium's border, in the Southwest quadrant of the moon. It is named after Henri A. Deslandres (1853-1948), a French astronomer, solar observer, director of the Paris Observatory at Meudon, and inventor of the spectroheliograph.

Figure 1. Deslandres at last quarter terminator -
Aleksander Božič - Slovenija. July 15, 2009.

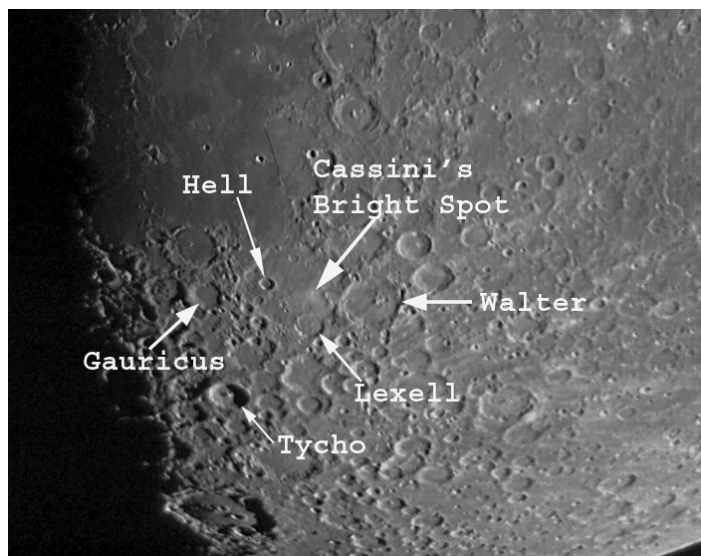
The walls are low, heavily eroded, and overlain by younger craters. They are easily recognizable near sunrise and sunset, but rapidly become indistinct as the solar elevation increases (figure 2). In fact, prior to being given its official name, Deslandres, it was simply referred to as Hell Plain, after the sharp rimmed, 33 km diameter, crater Hell (figure 3), which is the most obvious feature on the floor. Figure 4 is a collage of 15 images taken at various colongitudes over a period of two years, showing the effect of changing illumination.

Walter (or Walther), Walter W, and Lexell overlie most of the eastern wall. Ball and numerous smaller craters lie on the southwestern wall. With moderately high sun angles, most of the outline of Deslandres is more easily traced by the walls of the encroaching craters than by the walls of Deslandres. When it's visible Rupes Recta (the Straight Wall) points south to Deslandres. Near full moon, splendid Tycho to the south and Mare Nubium can lead you to the general area, but the best marker for Deslandres is Cassini's Bright Spot in the eastern part of the crater.



Figure 2. Deslandres under moderately high sun - Maurizio Morini – Milan, Italy. August 12, 2009 00:59 UT. APO refractor, 88 mm, 2464 mm equivalent focal length. Seeing 7/10, transparency 5/10. Lumenera Skynyx 2-0 mono, Baader Green filter.

Cassini's Bright Spot is a small (3 km) fresh, bright ray crater that unmistakably stands out near full moon. It is located within one of Tycho's rays. Although formation as a Tycho secondary crater can't be ruled out, it appears rather



fresh for this origin. In the 17th Century, Giovanni Cassini reported seeing a bright cloud that left a crater behind when it dissipated. This origin is also suspect, consider the story of Linné.

Figure 3. Deslandres area - William Dembowski – Windber, Pennsylvania, USA. July 24, 2007 01:29 UT. Colongitude 22.1°, Seeing 4/10, 8" f/10 SCT, Orion StarShoot II. (names added).

A crater the size of Deslandres might be expected to display multi-ring features, but there are no clear indications of such structure. Deslandres is very shallow, so ring structures may have been buried beneath magma or impact ejecta. There are indistinct arcuate structures near Hell. A

buried crater lies southeast of Hell. Slightly larger than and overlaid a bit by Hell on its northwest rim, its north wall is missing, making it look like a buried version of Lexell (63 km).

Two crater chains are easily visible (figures 5 & 6). The most obvious chain appears to the north and slightly east of Cassini's Bright Spot. The craters in this chain are progressively larger and more closely spaced to the north. The second chain begins on Mare Nubium west of Hell B, the smaller, distinct crater northeast of Hell, and

Figure 4. Deslandres illumination sequence - Aleksander Božič – Slovenija. Two year time span.

proceeds approximately southward, crossing Deslandres' wall northwest of Hell. This chain is less distinct, since it's in more rugged terrain.

On the east side, Walter W looks like a small step installed between Deslandres and Walter. The breach in the wall between Walter and W apparently allowed magma from Walter to flow into and nearly fill W, or vice versa (figure 6).

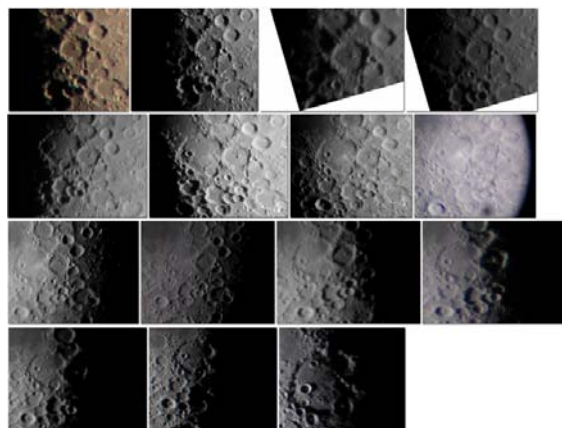


Figure 7 shows numerous small craters and mounds on the floor of Deslandres, particularly east of Hell B. There also appears to be an east-west ridge or slope across the middle

Figure 5. Deslandres floor features - Ed Crandall – Winston-salem, North Carolina, USA. January 4, 2009 23:28 UT. 110 mm f/6.5 APO, 3x barlow.

of the floor from Lexell to the west wall between Hell and Hell B.

Other noticable features in the vicinity include the division of Walter's floor into a smooth southern section and a much rougher northern section. Is the floor sloped?



Most interesting, because I don't know of another example on the moon, is Guaricus (79 km). Look at Figures 2 and 3. The crater appears heavily eroded, but instead of the battered walls and slump blocks that would be typical, the walls appear smooth, more like a sand dune than a rock pile. Could Guaricus simply be covered with a thick layer of fine ejecta, or is there something unique about this particular crater? If it is ejecta covered, why not other craters also?

Figure 6. Deslandres in morning light - Richard Hill – Tucson, Arizona, USA. September 20, 2007 02:17 UT. Seeing 6/10. C14, f/11, SPC900NC, UV/IR blocking filter.

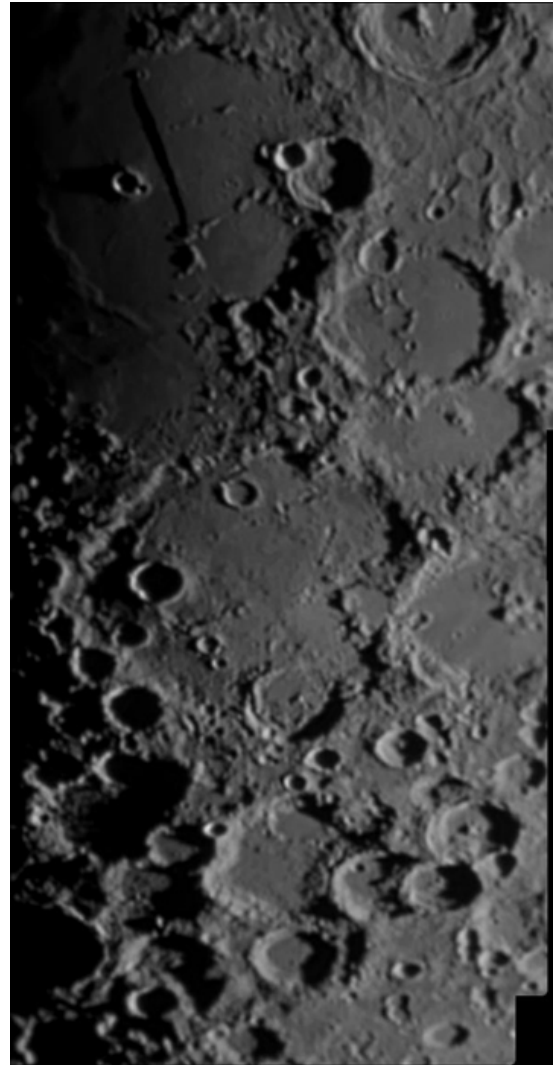
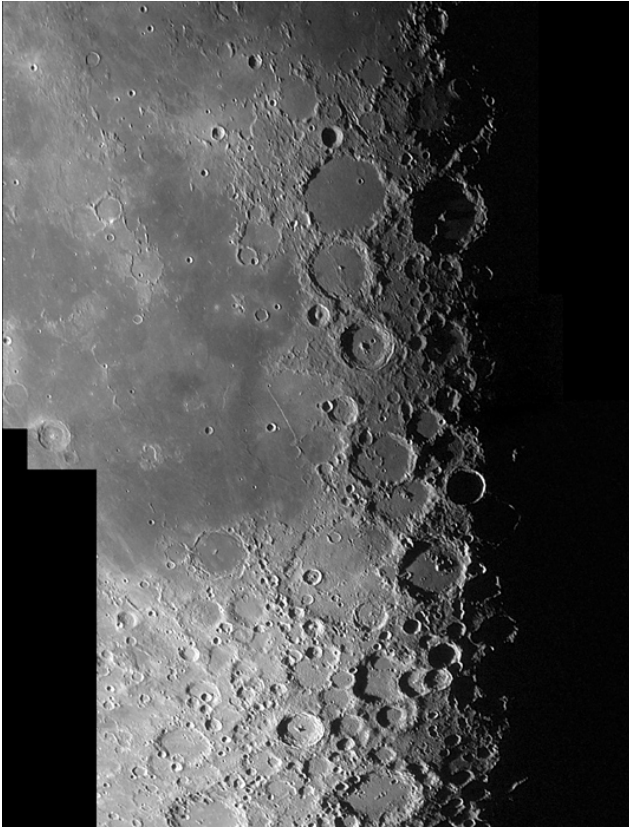


Figure 7. Deslandres under low morning sun - Klaus Petersen – Glinde, Germany. March 4, 2009 20:11 UT. Seeing 5/10, transparency 4/6, Meade 8" SCT, f/10 DMK 21AF04.AS.

ADDITIONAL READING

- Bussey, Ben & Paul Spudis. 2004. The Clementine Atlas of the Moon. Cambridge University Press, New York.
- Byrne, Charles. 2005. Lunar Orbiter Photographic Atlas of the Near Side of the Moon. Springer-Verlag, London.
- Grego, Peter. 2005. The Moon and How to Observe It. Springer-Verlag, London.
- Rukl, Antonin. 2004a. Atlas of the Moon, revised updated edition, ed. Gary Seronik, Sky Publishing Corp., Cambridge.
- Wood, Charles. 2003. The Modern Moon: A Personal View. Sky Publishing Corp., Cambridge.

ADDITIONAL DESLANDRE OBSERVATIONS



MAGINUS-HIPPARCHUS - Howard Eskildsen - Ocala, Florida, USA. May 16, 2009 09:16 UT. Seeing 9/10, Transparency 5/6. Meade 6" f/8 refractor, 2x barlow, Orion StarShoot II, W-8 Yellow filter.

DESLANDRES-WALTER – Larry Todd, Dunedin, New Zealand. April 6, 2009 21:22 UT. OMC200 f/20 maksutov, optiostar 122ccd



DESLANDRES - Axel Tute - Küssaberg, Baden-Württemberg, Germany. April 03, 2009, 20:20 UT Colongitude 14.75°, Seeing 8/10, Transparency 5/6, 8"SCT, f/10, ToUCam 740k.



LUNAR TOPOGRAPHICAL STUDIES

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

Assistant Coordinator – William Dembowski - dembowski@zone-vx.com

Website: <http://moon.scopesandscapes.com/>

OBSERVATIONS RECEIVED

ALEKSANDER BOŽIČ - SLOVENIJA Digital images of Deslandres(2), and collage of 15 Deslandres images.

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND Digital images of 4, 8, 10, 16, 17, 20 day moon, Albategnius-Aristoteles, Endymion, Full Moon, Furnerius, Hadley-Appenine, Heraclitas, Humboldt(2), Langrenus, Macrobius, Mare Humboltianum-Mare Crisium, Mare Crisium, Messala, 17 day terminator, Petavius(2), Playfair-Stofler, Rupes Recta-Ptolemaeus, Southern Highlands, South Pole, Triesnecker, and Valentine Dome.

ED CRANDALL – WINSTON-SALEM, NORTH CAROLINA, USA Digital images of Deslandres(2).

WILLIAM DEMBOWSKI – WINDBER, PENNSYLVANIA, USA Digital images of Deslandres(2).

HOWARD ESKILDSEN - OCALA, FLORIDA, USA Digital images of Mare Nectaris, Southern Moon(2). Banded crater reports for Agatharchides A, Ariadaeus, Aristarchus, Aristillus, Bessarion, Birt, Bode, Brayley, Conon, Damoiseau E, Dawes, Kepler, Menelaus, Nicollet, Pytheas, Silberschlag and Theaetetus.

RICHARD HILL – TUCSON, ARIZONA, USA Digital image of Deslandres.

MAURIZIO MORINI – MILAN, ITALY Digital images of Clavius and Deslandres(2).

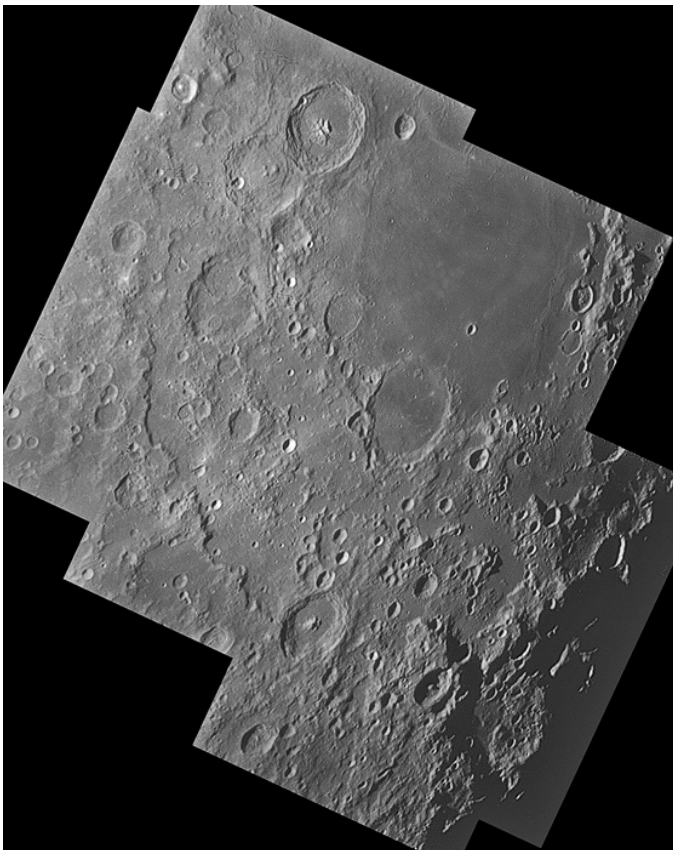
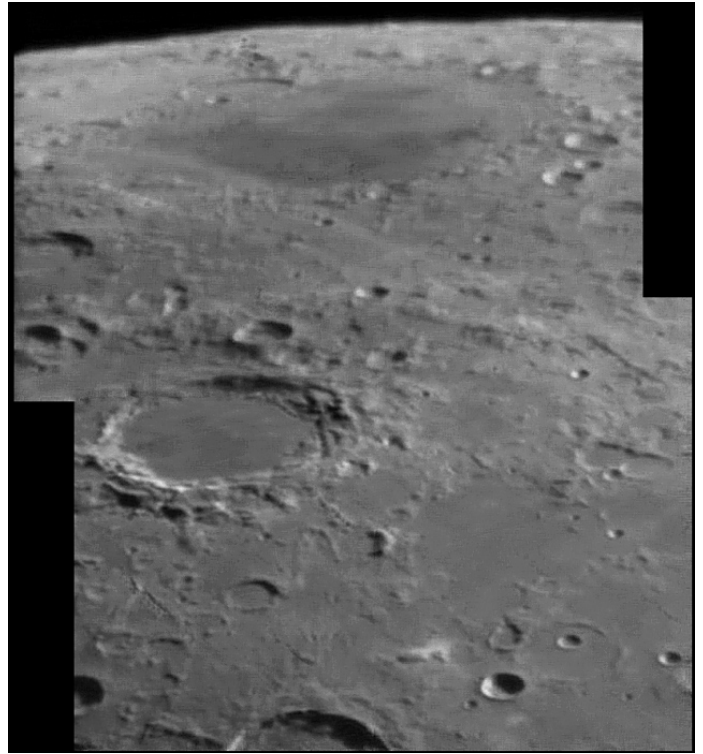
KLAUS PETERSEN – GLINDE, GERMANY Digital image of Deslandre-Werner.

AXEL TUTE – KÜSSABERG, BADEN-WÜRTTEMBERG, GERMANY Digital images of Copernicus and Deslandres.

MIKE WHITE – LEVIN, NEW ZEALAND Digital images of 3 day & Full moon, Babbage-Goldschmidt, Moretus-Schickard.

RECENT TOPOGRAPHICAL OBSERVATIONS

ENDYMION & MARE HUMBOLDTIANUM –
Maurice Collins - Palmerston North, New Zealand,
July 27, 2009 04:50-05:03 UT. C8, 3x barlow, LPI.



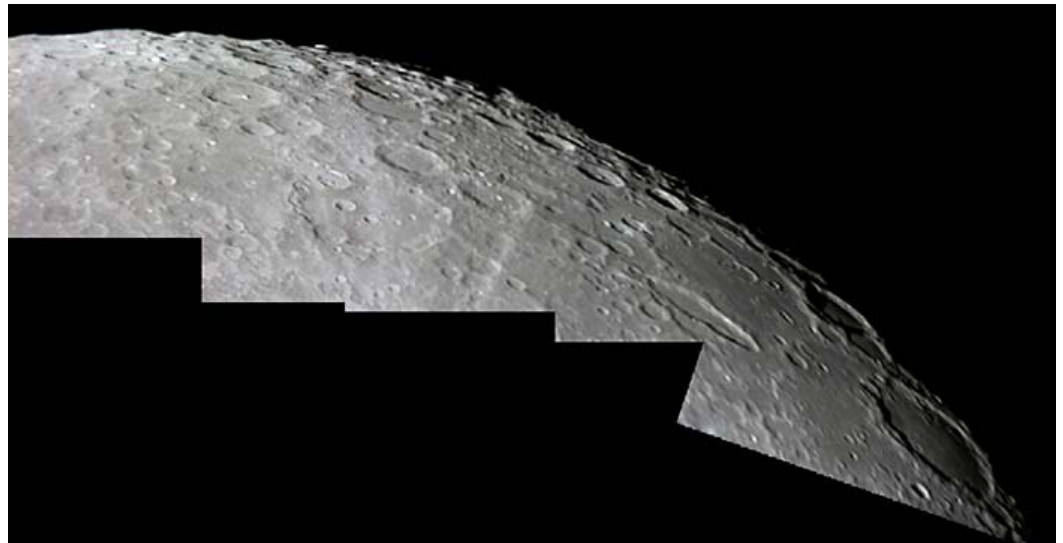
MARE NECTARIS – Howard Eskildsen, Ocala,
Florida, USA. August 9, 2009 09:32 UT. Seeing
8/10, Transparency 3/6. Meade 6" f/8 refractor, 5x
telexetender, Orion Starshoot II.

RECENT TOPOGRAPHICAL OBSERVATIONS



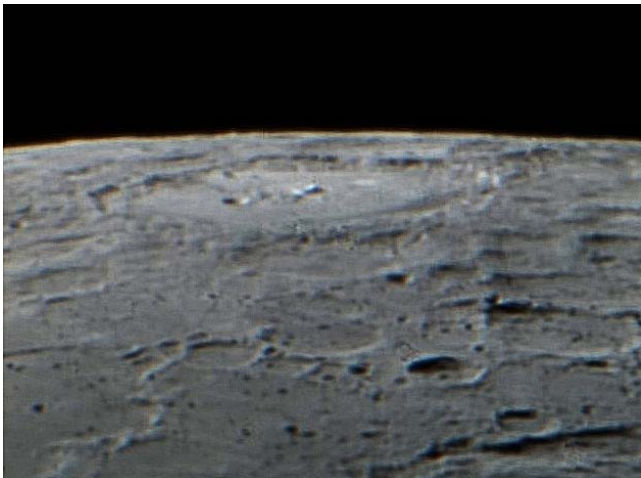
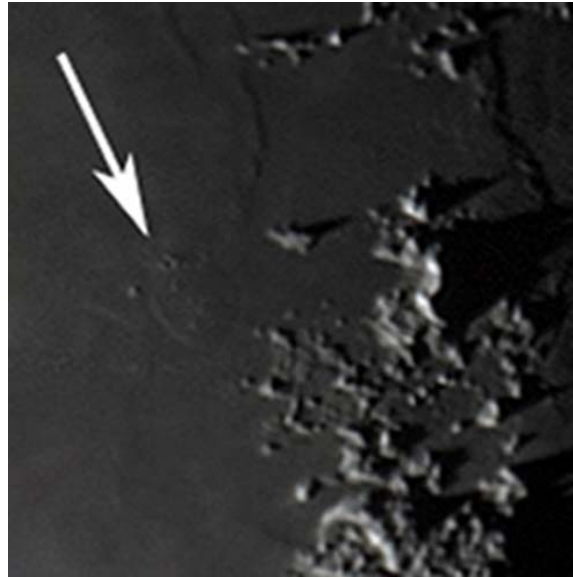
CLAVIUS – Maurizio Morini –
Milan, Italy. August 12, 2009.
01:08 UT. Seeing 5/10,
Transparency: 7/10, APO Refractor
equivalent focal length 2464 mm,
Lumenera Skynyx 2-0 Mono,
Baader Red filter.

Moretus-Schickard –
Mike White – Levin,
New Zealand. August
03, 2009, 09:06-10:11
UT. Orion SkyQuest
XT10, TLSsystems EQ
Platform, Phillips
SPC900NC webcam,
Celestron 2x barlow &
#58A green filter.

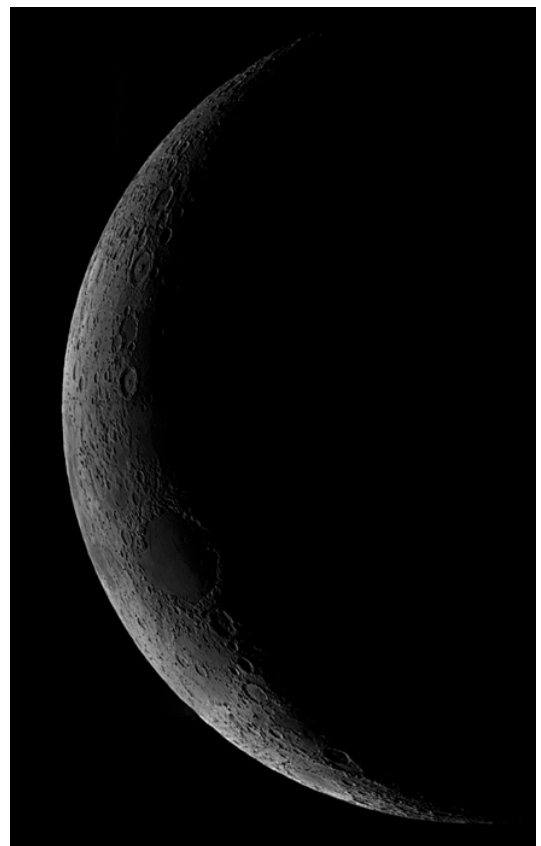


ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

VALENTINE DOME - Maurice Collins - Palmerston North, New Zealand, July 29, 2009. C8, 3x barlow, LPI.



HUMBOLDT - Maurice Collins - Palmerston North, New Zealand, August 24, 2009 07:36 UT. C8, 3x barlow, LPI.



3 DAY MOON - Mike White – Levin, New Zealand. July 25, 2009, 05:07-05:26 UT. Orion SkyQuest XT10, TLSystems EQ Platform, Phillips SPC900NC webcam.

BRIGHT LUNAR RAYS PROJECT

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

Assistant Coordinator – William Dembowski – dembowski@zone-vx.com

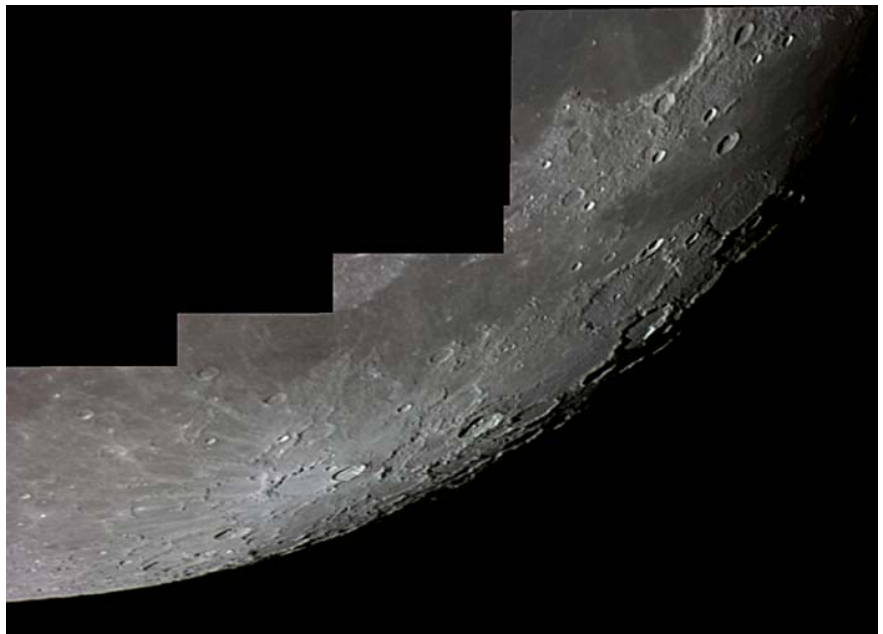
Bright Lunar Rays Website: <http://moon.scopesandscapes.com/alpo-rays.html>

RECENT RAY OBSERVATIONS



COPERNICUS- KEPLER – Axel Tute
– Küssaberg, Baden-Württemberg,
Germany. May 6, 2009 21:00
UT, colongitude 57.4°, Seeing 7/10,
Trans: 5/6, 70/700 FH Refraktor, Prime
focus f/10, ToUCam 740k Webcam.

ANAXAGORAS - Mike White –
Levin, New Zealand. August 3, 2009
09:41-09:53 UT. Orion Skyquest
XT10, Tlsystem EQ Platform,
Phillips SPC900NC Webcam,
Celestron 2x barlow & W58 filter.



BANDED CRATERS PROGRAM

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

Assistant Coordinator – William Dembowski - dembowski@zone-vx.com

Banded Craters Program Website: <http://moon.scopesandscapes.com/alpo-bcp.html>

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: Orion StarShoot II (640 X 480), 5X TeleXtender, Filters: None

Seeing: 8/10 Transparency: 5/6

Date (UT): 2009/08/09 Time (UT): 09:56

Colongitude: 135°

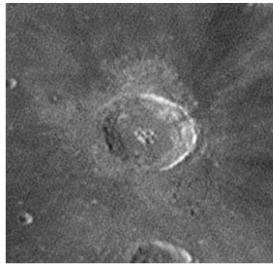
Position of crater: Selen. Long. Selen. Lat.

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:



Two dark parallel bands on the northeastern crater appear to split as they cross the rim.

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

Crater Observed: Birt

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 (640 X 480), 5X TeleXtender Filters: None

Seeing: 8/10 Transparency: 5/6

Date (UT): 2009/08/09 Time (UT): 09:38

Colongitude: 135°

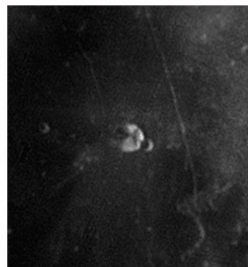
Position of crater: Selen. Long. Selen. Lat.

8.5° West 22.4° South

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

Image (north up):

Comments:



Complex pattern is visible in the crater with various dark bands crossing the crater in different directions and intersecting in the interior. A bright area on the west crater margin contrasts with the dark area that surrounds it. If the image were rotated 90° counterclockwise, the dark bands combined with Birt A would resemble a stick-person with arms slightly raised.

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

Crater Observed: Menelaus

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 (640 X 480), 5X TeleXtender, Filters: None

Seeing: 8/10 Transparency: 5/6

Date (UT): 2009/08/09 Time (UT): 09:59

Colongitude: 135°

Position of crater: Selen. Long. Selen. Lat.
16.0° East 16.3° North

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

Image (north up):

Comments:



Dark bands cross the north and eastern crater walls, with bright albedo features in between. Floor has a rough appearance.

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 (640 X 480), 5X TeleXtender, Filters: None

Seeing: 8/10 Transparency: 5/6

Date (UT): 2009/08/09 Time (UT): 09:55

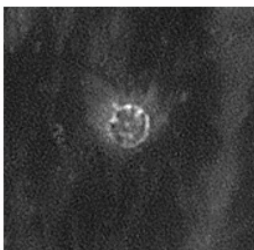
Colongitude: 135°

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:



Bright interior markings are noted in the central and in the southern crater floor. Three bright streaks extend a very short distance from the northern crater rim towards the interior. Another bright streak extends outwards from the NNW rim a short distance

LUNAR TRANSIENT PHENOMENA

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

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

LTP NEWSLETTER – SEPTEMBER 2009

Dr. Anthony Cook - Coordinator

Observations for Jul 2009 were received from the following observers: Jay Albert (Lakeworth, FL, USA), Steve Chadwick (New Zealand), Maurice Collins (Palmerston North, New Zealand), myself (Aberystwyth, UK), Marie Cook (Mundesley, UK), John Field (New Zealand), Steve Lang (Stanley Bay, New Zealand), Bob O'Connell (FL, USA) and Mike White (Levin, New Zealand). Again I'm very impressed by the quantity and quality of observations submitted by our New Zealand observers – Maurice Collins should be congratulated in getting so many amateurs out there to look at the Moon.

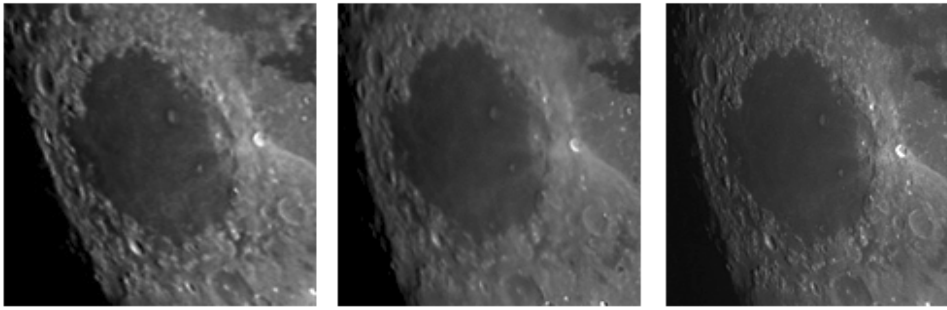
TLP reports: There are 0 TLP reports for July, although Bob O'Connell (FL, USA) sent me a couple of images of what he referred to as a "false TLP" sighting of an apparent lunar flare beyond the terminator. The sighting was made at 09:54UT on 2009 Jul 16, near Lambert. Due to the spot's apparent excessive brightness, he got in contact with another observer, Bob Duvall, and both agreed over the brightness. I guess though that after checking charts and monitoring its fairly stable brightness over tens of minutes, they soon realized that it was indeed just a tall mountain with sun facing slope. Interestingly Bob mentions that there is a TLP report for another nearby mountain exhibiting this effect is described in Cameron's 1978 catalog (ID=312): on 1902 Aug 13 UT 00:50 - Jones of Philadelphia observed a "brilliant star-like point near Lambert on the dark side of the terminator of magnitude 3-4 with a diffraction ring! As the terminator neared it the point turned into a very brilliant spot". Over the years I have seen a number of false TLP reports like this, though they pertain mostly to Pico and Piton.

Concerning the ashen light effect seen at sunset on the floor of Plato on 2009 Jun 16 UT 03:20-03:40 by Phil Morgan. (UK) I came across the following description for a TLP noted by B. Hobdell (St Petersburg, FL, USA) on 1981 Oct 21 UT 11:35-11:48 – *"found that the south peak of Plato on floor glowed white at 11:35UT, then a milky shade spread all around Plato's floor (previously completely shadow filled). The needle like shadows started to be indistinguishable through the sunlight (dawn on Earth). The cloud like feature was washed out by daylight at 11:48UT and conformed to the white area except a tail that reached the centre of Plato"*.

Please compare the above with Phil Morgan's description given in last month's article – the co-longitudes coincide, and so probably both reports are illumination effects. Nevertheless I would suggest strongly that observers have a go at trying to monitor sunset on Plato at the times listed below (assuming the Moon is above the horizon and it is night at your observing site) – please attempt sketch sequences or CCD time lapse imaging with exposures sufficient to pick up detail in the shadow. From Morgan and Hobdell's accounts I think that you will find sunset at Plato an awesome sight to behold and well worth getting up early in the morning to see:

<u>Date</u>	<u>UT</u>
2009 Sep 12	12:53-13:14
2009 Oct 12	01:23-01:44
2009 Nov 10	14:50-15:10
2009 Dec 10	05:03-05:23

Routine reports: I am enclosing some illustrative examples of routine reports and their relevance to past TLP reports with the hope that this will encourage others to submit routine observations:



A subset of CCD image mosaics from New Zealand observers on 2009 Jul 08 taken in sequence. (Left) Maurice Collins UT 09:16-09:33 in white light, (Centre) Mike White UT 09:38-10:45 in white light, (Right) Steve Chadwick UT 12:30-12:40 in Hydrogen Alpha

On 2009 Jul 12 at UT 23:20-23:35 Marie Cook (Mundesley, UK) checked out several listed features, but found everything normal. On 2009 Jul 05 UT 03:35-05:20 Jay Albert (FL, USA) observed Herodotus, Aristarchus, and Gassendi and found everything normal.

LCROSS news: On 2009 Aug 22 the LCROSS star sensors, during a passage behind the Moon, sent some orientation feedback to the spacecraft that resulted in thrusters firing unnecessarily. As a result, by the time it appeared again over the limb, in view of the Earth, some 309 lb of propellant had been used up. This reduces significantly contingency fuel levels and may affect the science that could be returned if such an event occurs again. The impact date is still quoted as 2009 Oct 09 UT 11:30 +/- 30 minutes, however if I were mission planners I would perhaps be considering options to crash the probe early in case the problem recurs – though of course this would affect all the observing time already booked at the world's major observatories in Hawaii and South America. Whatever happens, please monitor the LCROSS web site... <http://lcross.nasa.arc.gov> for the latest news on the proposed impact times. If you are able to make observations in your part of the world, please submit them (even if negative) to the recommended site on the LCROSS web site, but also copy them to me and Brian Cudnik so that we can highlight your observations within ALPO.

LTP alerts now available on Twitter: I have set up a Twitter web page (<http://twitter.com/lunarnaut>) with the aim of stream-lining LTP alerts. This is currently hidden from public view to avoid a band wagon effect of inexperienced observers e.g. the Argus “radio ham” Astronet programme of the late 1960's. To access these Tweets you will need to have an account on Twitter and let me know your username only, so that I can let you access my Tweets. To keep information clutter low, I will only post LTP alerts (these are usually just a few per year at most) and perhaps maybe one or two highlighted observational targets per month. If I understand correctly, you can optionally select to receive Tweet alerts as text messages by mobile phone as well. So if you are interested in any of this please let me know.

For repeat illumination TLP predictions for the coming month, these can be found on the following web site: <http://users.aber.ac.uk/atc/tlp/tlp.htm>. For members who do not have access to the internet, please drop me a line and I will post predictions to you. If you would like to join the current TLP telephone/text 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!

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

KEY TO IMAGES IN THIS ISSUE

1. **Anaxagoras**
2. **Aristillus**
3. **Birt**
4. **Clavius**
5. **Copernicus**
6. **Deslandres**
7. **Endymion**
8. **Humboldt**
9. **Mare Nectaris**
10. **Müller**
11. **Pytheas**
12. **Valentine Dome**

FOCUS ON targets

X = Menelaus (November)

Y = Atlas & Hercules (January)

Z = Snellius & Furnerius (March)

