

THE LUNAR OBSERVER

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

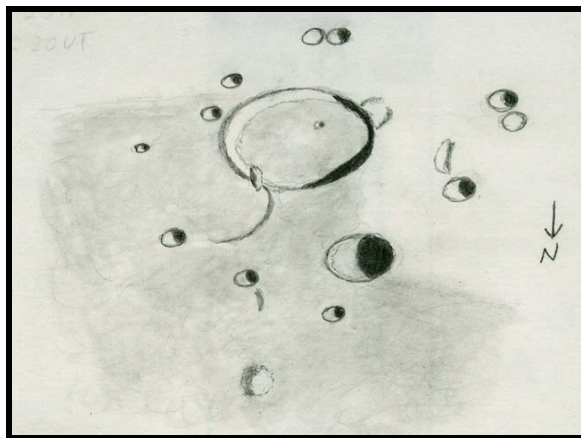
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RECENT BACK ISSUES: http://moon.scopesandscapes.com/tlo_back.html

FEATURE OF THE MONTH – MAY 2012

LaCondamine



**Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
December 16, 2011 07:37-10:20 UT, 15 cm refl, 170x, seeing 7-8/10**

I observed this crater and vicinity on the morning of Dec. 16, 2011 after watching two occultations. This crater is on the southern edge of Mare Frigoris north of Prom. Laplace. This saucerlike crater has a smooth gray floor. I think of it as a pale version of Plato. It has relatively substantial interior shadow inside its northwest rim, and a couple of shadow bits break up its sunlit east side. I could glimpse a tiny bit of shadow at the steadiest times southwest of its center. This may be a tiny pit similar to the largest pits on Plato's floor. The southwest rim has less interior shadow than does the northwest rim, but there are blotchy bits of shadowing outside the rim there. La Condamine A is the large crater north of La Condamine. It also has a dusky interior, but is relatively deep judging from its interior shadow. La Condamine D and C are smaller craters west of La Condamine. There is a shallow saucer just north of C, and a peak elongated north-south is near D. Three similar-sized craters are in a row north of La Condamine A and La Condamine. The easternmost one is La Condamine G. This crater has a bright interior .. A curved ridge is between La Condamine G and a peak or protrusion on the north side of La Condamine. The Lunar Quadrant map shows an unlabeled ghost ring there. The other two craters in this row are not labeled or even shown on the LQ map. Those two craters have dusky interiors much like La Condamine A. A slightly curved bit of shadow is north

of the middle crater, and a large, isolated peak is farther north. La Condamine M is the small pit east of La Condamine. It has a bright interior like that of La Condamine G. Two modest craters are just east of La Condamine. The southern one is La Condamine H; the other one is unlabeled on the LQ map. Two more unlabeled craters are south of La Condamine. The western one of this pair is definitely the deeper of the two. The edge of Mare Frigoris cuts through this area from La Condamine H to west from La Condamine A. The latter crater is at least partly within Mare Frigoris, though it isn't shown as such on the LQ map.

LUNAR CALENDAR

MAY-JUNE 2012 (UT)

May 01	07:00	Moon 7.3 Degrees SSW of Mars
May 04	20:00	Moon 6.2 Degrees S of Saturn
May 06	03:34	Moon at Perigee (356,953 km – 221,800 miles)
May 06	03:35	Full Moon
May 08	06:18	Extreme South Declination
May 09	20:00	Moon 1.5 Degrees ESE of Pluto
May 12	21:47	Last Quarter
May 13	19:00	Moon 5.9 Degrees NNW of Neptune
May 15	22:00	Moon 1.1 Degree ESE of asteroid 2-Pallas
May 16	13:00	Moon 5.2 Degrees NNW of Uranus
May 19	16:14	Moon at Apogee (406,450 km – 252,556 miles)
May 20	04:00	Moon 2.1 Degrees NNW of Mercury
May 20	14:00	Moon 1.8 Degrees N of Jupiter
May 20	23:47	New Moon (Start of Lunation 1106)
May 22	11:12	Extreme North Declination
May 22	22:00	Moon 4.7 Degrees S of Venus
May 28	20:15	First Quarter
May 29	05:00	Moon 6.5 Degrees SSW of Mars
June 01	01:00	Moon 6.2 Degrees SSW of Saturn
June 03	13:21	Moon at Perigee (358,482 km – 222,750 miles)
June 04	11:11	Full Moon (Partial Eclipse of the Moon)
June 04	17:06	Extreme South Declination
June 06	02:00	Moon 1.2 Degrees SSW of Pluto
June 10	01:00	Moon 5.9 Degrees NNW of Neptune
June 11	10:42	Last Quarter
June 12	18:00	Moon 1.2 Degree NNE of asteroid 2-Pallas
June 12	22:00	Moon 5.1 Degrees NNW of Uranus
June 16	01:25	Moon at Apogee (405,790 km – 252,146 miles)
June 17	06:00	Moon 1.4 Degrees NW of Jupiter
June 18	17:36	Extreme North Declination
June 18	00:00	Moon 2.1 Degrees N of Venus
June 19	15:02	New Moon (Start of Lunation 1107)
June 21	17:00	Moon 5.5 Degrees S of Mercury
June 26	11:00	Moon 5.4 Degrees SSW of Mars
June 27	03:29	First Quarter
June 28	08:00	Moon 6.1 Degrees SSW of Saturn

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

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

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

Our quarterly journal, **The Strolling Astronomer**, contains the results of the many observing programs which we sponsor including the drawings and images produced by individual amateurs. Additional information about the A.L.P.O. and its [Journal is on-line at: http://www.alpoastronomy.org/index.htm](http://www.alpoastronomy.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.

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

In addition to information specifically related to the observing program being addressed, the following data should be included (**Bold items are required**):

Name and location of observer

Name of feature

Date and time (UT) of observation

Size and type of telescope used

Magnification (for sketches)

Orientation of image: (North/South - East/West)

Seeing: 1 to 10 (1-Worst 10-Best)

Transparency: 1 to 6

Medium employed (for photos and electronic images)

CALL FOR OBSERVATIONS:

FOCUS ON: Bullialdus

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 **July 2012** edition will be **the crater Bullialdus and surroundings**. Observations at all phases and of all kinds (electronic or film based images, drawings, etc.) are welcomed and invited. Keep in mind that observations do not have to be recent ones, so search your files and/or add Bullialdus to your observing list and send your favorites to:

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

Deadline for inclusion in the Bullialdus article is June 20, 2011

FUTURE FOCUS ON ARTICLES:

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

Aristillus **TLO Issue: September 2012** **Deadline: August 20, 2012**

ALPO Meeting and Call for Papers at the 2012 ALCon

The ALPO will be convening at the Astronomical League's 2012 ALCon in Lincolnshire, Illinois. Go to the ALCon website at this URL - <http://alcon2012.astroleague.org/> for details about attending the upcoming ALCon.

The ALPO intends to have its own papers sessions and ALPO Staff and members are encouraged to participate in delivering their own paper presentations concerning Solar System astronomy and related topics at these paper sessions. ALPO papers will be scheduled for Friday morning, July 6, 2012 and all day Saturday. If you wish to give a paper presentation, please submit an abstract of your paper presentation and your request for audio/visual needs to ALPO Executive Director, Julius L. Benton, Jr. at this email address: jlbaina@msn.com.

FOCUS ON: Pyrenees Mountains

By Wayne Bailey

Coordinator: Lunar Topographical Studies

The Pyrenees Mountains (Montes Pyrenaeus) form the eastern boundary of the Mare Nectaris lava pond, between Mare Nectaris and Mare Fecunditatis in the southeastern sector of the moon (Fig. 1). This area seems to be neglected, possibly because the Pyrenees are not a spectacular range like the Apennines, and there are no well known features in the

Figure 1. Pyrenees Mountains & Mare Nectaris. Andy Miller, Conneaut, Ohio USA. September 18, 2008 08:30 UT. Seeing 6-8/10 Transparency 5/6. 4" f/8 refractor, afocal, 16mm plossl, HP 635 digital camera.



immediate area, such as Copernicus near the Carpathian Mountains, or the Alpine Valley in the Alps. In this area, attention is easily diverted to the Theophilus-Cyrrillus-Catharina trio of large craters, the Altai Scarp, or the ray craters to the southeast. The structures on the western and southwestern shores of Mare Nectaris are better defined and



preserved than the eastern. At least part of this difference is due to the Nectaris Basin having formed on the western edge of the pre-existing Fecunditatis Basin. The area has undergone a major modification twice, so the geologic structures are more complex than on the western side. The area has also been flooded by lava to a greater extent than the western side of the Nectaris Basin, as can be seen near full moon by the dark patches between the hills (Fig. 2).

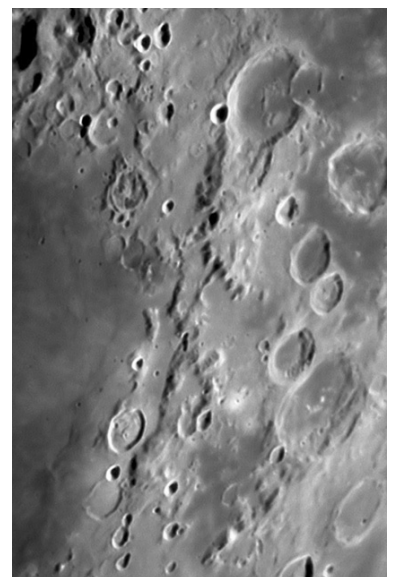
FIGURE 2. Pyrenees Mountains. Howard Eskildsen-Ocala, Florida, USA. February 3, 2012 01:46 UT. Seeing 6/10, Transparency 4/6. 6" f/8 refractor, Explore Scientific lens, 2X Barlow, DMK 41AU02.AS.

The Pyrenees extend from Gutenberg in the north, southward to the east of Bohnenberger, terminating northwest of Santbach where they seem to quickly sink into the plain. When the light is right, the range appears to be

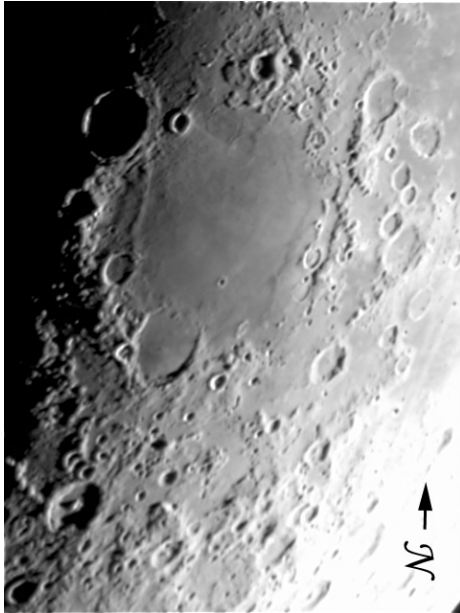
crossed by two NW-SE trending ridges, connected by a lower NS ridge (Fig. 3). The relief generally decreases from north to south. The western slopes rise steeply out of the Nectaris lava pond, with more gentle slopes on the

Figure 3. Pyrenees Mountains cross ridges. John Duchek, St. Louis, MO USA. March 29, 2012 02:30 UT. Seeing 5/10 Transparency 3/6. 6" Dynascope Newtonian f/8, 2.5x barlow, Canoo Tli (500D) camera.

eastern side. They form the eastern segment of the circular outline of the mare. This is not, however, the main rim of the Nectaris Basin. The main rim is the Altai Scarp on the west and would pass through Bodra and Cook, continue between Colombo and McClure, and then east of Goclenius (roughly



outlining the southwestern edge of Mare Fecunditatis) (Fig. 4). If the Nectaris basin had been flooded as deeply as other maria, there would be very little of the Pyrenees visible; isolated peaks or maybe a wrinkle ridge.



At the northern terminus of the range, Gutenberg (Fig. 5) is a highly modified, crater sitting on the eastern slope. Gutenberg E, (about 1/3 the size of Gutenberg) is superimposed on its eastern rim, Gutenberg A is just outside the southwest rim, and Gutenberg C on the south rim creates a keyhole appearance. This complex has been

Figure 4. Pyrenees Mountains and east. Antonius J. Schalken. Melbourne, Victoria, Australia. October 10, 2005 08:09 UT. Seeing 7/10 Transparency 5/6. 6" f/10 Maksutov, Phillips ToUcam 740K.

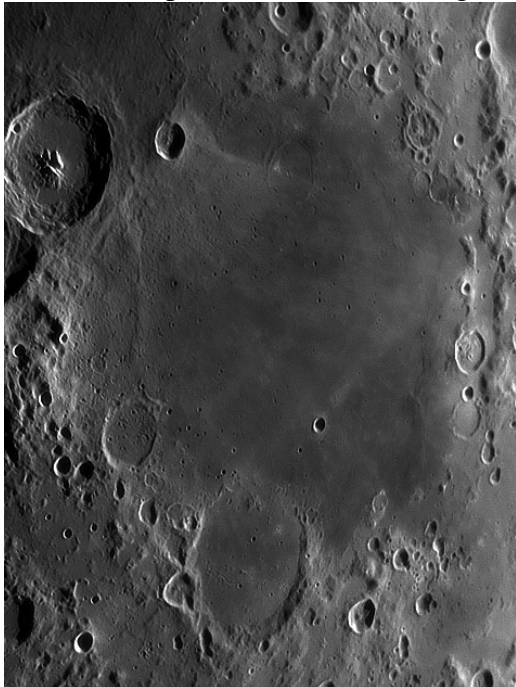
modified by Fecunditatis lava. This demonstrates the complex geologic history of the area. The Nectaris Basin formed on the pre-existing Fecunditatis Basin. Craters, such as Gutenberg formed after the Nectaris Basin (else they would have been destroyed), but had to exist prior to completion of the Fecunditatis floods. Which in turn demonstrates that the flooding of the Fecunditatis basin took place over an extended period of time, not immediately following the basin forming impact.

Several large rilles, the Gutenberg rilles, extend NW from Gutenberg across the plains between Capella and

Figure 5. Gutenberg. Orlando Benitez Sanchez-Canary Islands, Spain. January 30, 2012 21:46 UT. Seeing 8/10, Colongitude 357.8°. SCT 235mm, f/10, DMK21AU04.AS no filter.

Leakey. The Goclenius rilles extend NW from Goclenius past the east wall of Gutenberg.

There are several craters and isolated peaks on Mare Nectaris that parallel the western edge of the Pyrenees.



Bohnenberger, a well preserved, floor fractured crater with an interesting, hilly floor, is the largest of these craters (Fig. 6). Unlike its neighbor to the south, it hasn't been flooded by Nectaris lava, but the raised, fractured floor indicates pressure from magma that didn't erupt. The bright, small, well preserved craters also merit close attention

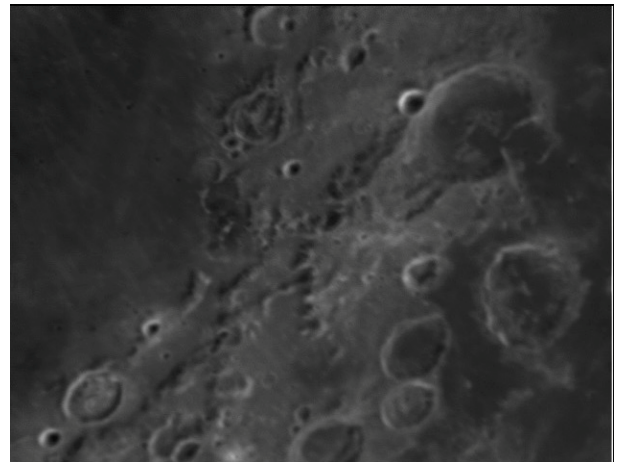


Figure 6. Bohnenberger. Hongsun Yoon – Republic of Korea. February 20, 2010 09:17 UT. Seeing 8/10, Transparency 4/6. 12" f/11.9 Dall-Kirham, powermate, Lumenera LU075, Astronomic R dichroic filter with IR block.

for the detail visible within them. The eastern edge of Mare Nectaris, just west of these features, also exhibits a series of wrinkle ridges. These are best viewed when near the terminator.

I've only touched on the interesting details that can be found in this somewhat neglected region by careful examination. The entire area east of the Nectaris lava pond to Mare Fecunditatis is part of the Nectaris basin and filled with complex structures resulting from the overlap of Nectaris and Fecunditatis.

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.
- Gillis, Jeffrey J. ed. 2004. Digital Lunar Orbiter Photographic Atlas of the Moon. Lunar & Planetary Institute, Houston. Contribution #1205 (DVD). (http://www.lpi.usra.edu/resources/lunar_orbiter/).
- Grego, Peter. 2005. The Moon and How to Observe It. Springer-Verlag, London.
- North, Gerald. 2000. Observing the Moon, Cambridge University Press, Cambridge.
- Rukl, Antonin. 2004. Atlas of the Moon, revised updated edition, ed. Gary Seronik, Sky Publishing Corp., Cambridge.
- Shirao, Motomaro & Charles A. Wood. 2011. The Kaguya Lunar Atlas. Springer, New York
- Wlasuk, Peter. 2000. Observing the Moon. Springer-Verlag, London.
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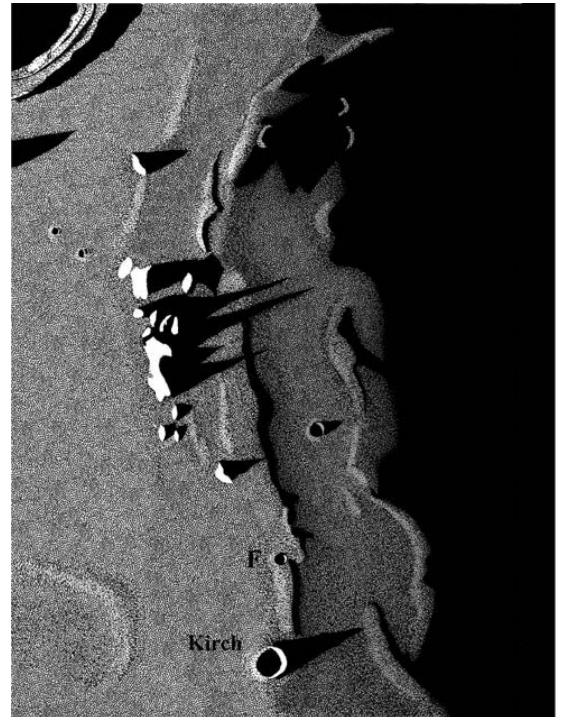
The Spitzbergen Range

Phil Morgan

A particularly fine view of the Spitzbergen range at sunrise was enjoyed on the evening of 2012 March 30th, between the hours of 20:10 and 20:45.

Situated some 65 kilometres to the north of the outer northern glaciis of Archimedes, the entire range is some 60 kilometres in length, and is probably the remains of a once fine inner Imbrium mountain ring. Despite the fact that none of the individual peaks attain a height of over 1,500 metres, at both sunrise and sunset some of these cast very fine spires of shade, and on this occasion they were seen spreading some 65 kilometres (about 40 miles) to the west of the range.

Just immediately to the west of the Montes Spitzbergen is a fine broad flat-topped wrinkle ridge which gently meanders down to the 12 kilometre crater Kirch, and then continues on its northern journey almost as far as the Mons Pico.



LUNAR TOPOGRAPHICAL STUDIES

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

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

OBSERVATIONS RECEIVED

ORLANDO BENITEZ SANCHEZ-CANARY ISLANDS, SPAIN. Digital images Aristillus, Atlas-Hercules, Boguslawsky, Bullialdus(2), Clavius-Tycho, Copernicus, Dorsum Mawson, Dorsum Oppel, Endymion, Gassendi, Mare Crisium-Mare Fecunditatis, Mare Frigoris, Montes Apenninus, Montes Pyrenaeus, Plato, Rupes Altai, Sinus Iridum, Tycho, and Valles Rheita.

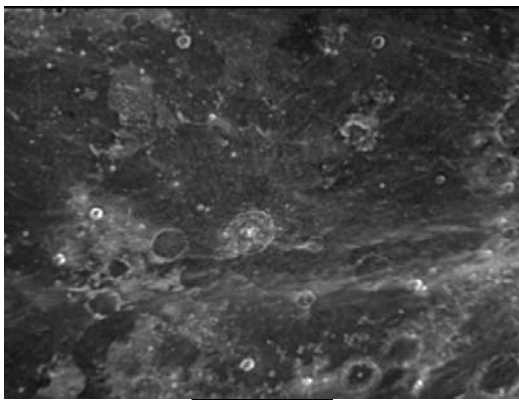
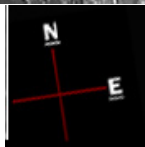
MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND. Digital images of 3, 4, 10, 13, 15, 16, 24 day Moon, Copernicus-Mare Imbrium, Full Moon, Langrenus, and Petavius.

RICHARD HILL – TUCSON, ARIZONA, USA Digital images of Atlas, Julius Caesar, Menelaus-Dawes, and Polybius.

PHILLIP MORGAN –LOWER HARTHALL-TENBURY WELLS, WORCESTERSHIRE, ENGLAND. Drawings of Montes Spitzbergen.

SWEETMAN, MIKE - TUCSON, ARIZONA, USA. Digital images of Janssen, and Theophilus.

RECENT TOPOGRAPHICAL OBSERVATIONS



BULLIALDUS - Orlando Benitez Sanchez-Canary Islands, Spain. SCT 235mm, DMK21AU04.AS

Left: March 3, 2012 21:59 UT. Seeing 7/10, Transparency 4/10, Colongitude 39.1°, f/6.3.

Right: November 3, 2012 01:32 UT. Seeing 7/10, Transparency 4/10, Colongitude 125.7°, f/10.

RECENT TOPOGRAPHICAL OBSERVATIONS



23-day MOON - Maurice Collins-Palmerston North, New Zealand. April 14, 2012 21:06-21:24 UT. ETX-90, LPI.

MENELAUS to PLINIUS –

Richard Hill – Tucson, Arizona, USA March 29, 2012 02:12 UT. Seeing 8/10. C14, 2x barlow, f/22, SCT. DMK21AU04. Wratten 23 filter.

I caught this view of the Menelaus - Dawes region the other night. It was an interesting terminator but I don't think I've ever seen the dome that Dawes sits on, quite so clearly.



JANSSEN – Michael Sweetman, Tucson, Arizona, USA, December 31, 2011 02:42 UT. Seeing 7/10 Transparency 3.5/6. 4" f/20 refractor. DMK21 IR block filter. North down, east left.

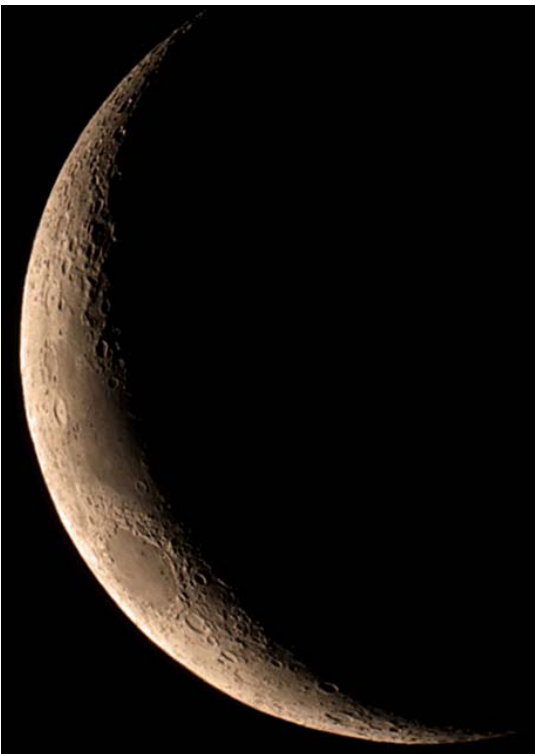
ADDITIONAL TOPOGRAPHICAL OBSERVATIONS



DORSUM OPPEL - Orlando Benitez Sanchez-
Canary Islands, Spain. March 11, 2012 02:25 UT.
Seeing 6/10, Transparency 3/6, Colongitude 125.6°.
SCT 235mm, f/20, DMK21AU04.AS. no filter.



GASSENDI - Orlando Benitez Sanchez-Canary Islands,
Spain. March 3, 2012 22:28 UT. Seeing 7/10, Transparency
4/6, Colongitude 34.4°. SCT 235mm, f/6.3,
DMK21AU04.AS. IR cut filter.



4 day MOON - Maurice Collins-Palmerston North, New Zealand.
March 15, 18:16 18:28 UT. ETX-90, LPI.

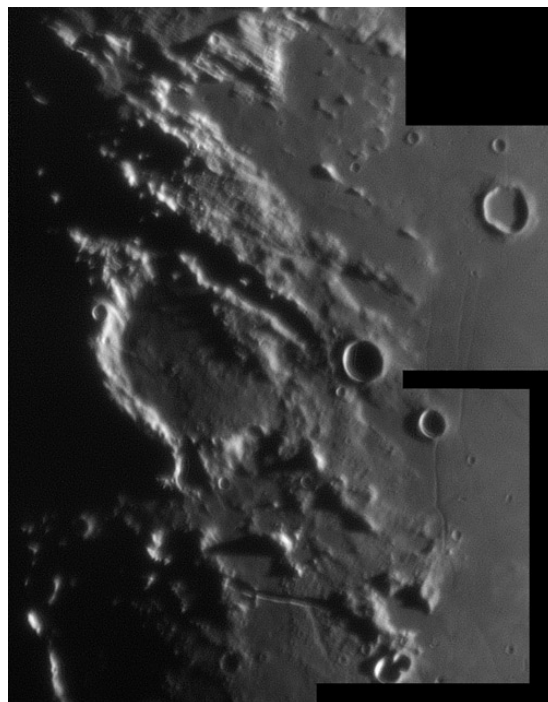
ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

JULIUS CAESAR – Richard Hill – Tucson, Arizona, USA
March 29, 2012 02:09 UT. Seeing 8/10. C14, 2x barlow, f/22, SCT. DMK21AU04. Wratten 23 filter.

Perhaps I should have taken this on the Ides of March, but instead it's from 29 March UT.

This image is of the Julius Caesar region of the moon. It is a stunningly craggy portion with huge valleys carved out from nearby impacts. Unfortunately there was a small strip just E of Sosigenes that was missed and I was unable to recover it from any of the AVIs.

The thing I noticed as I was taking the images was at the eastern cliffs of the small patch of mountains east of Menelaus D. At the base of the cliffs is a small N-S rille that I cannot find on Rukl or any of the lunar software. Does it have a name?



POLYBIUS – Richard Hill – Tucson, Arizona, USA
March 29, 2012 02:26 UT. Seeing 8/10. C14, 2x barlow, f/22, SCT. DMK21AU04. Wratten 23 filter.

My goal for this montage of 4 images was to catch good images of Polybius C/F and K. I wanted good views of these two examples of straight walls.

THEOPHILUS – Michael Sweetman, Tucson, Arizona, USA,
December 30, 2011 02:34 UT. Seeing 7/10 Transparency 3.5/6. 4" f/20 refractor. DMK21 IR block filter. North down, east left



BRIGHT LUNAR RAYS PROJECT

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

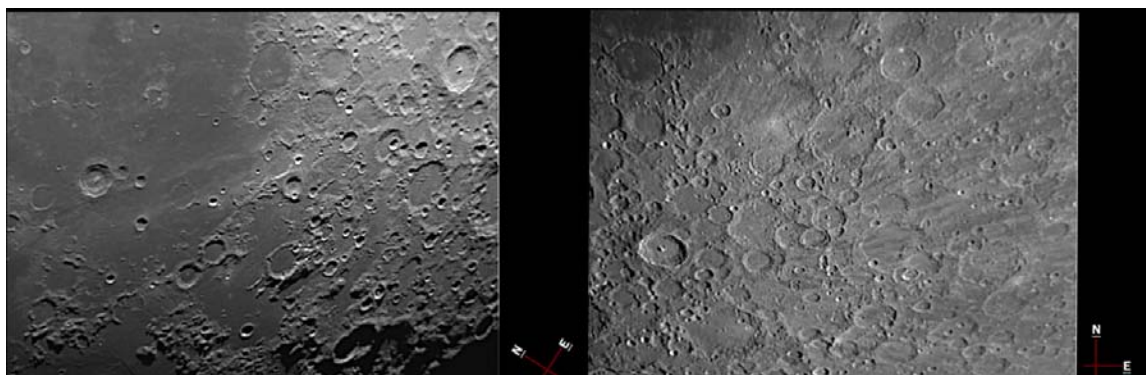
Assistant Coordinator – William Dembowski – dembowski@zone-vx.com

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

RECENT RAY OBSERVATIONS



COPERNICUS-Orlando Benitez Sanchez-Canary Islands, Spain.
March 3, 2012 22:17 UT. Seeing 6/10, Transparency 4/6,
Colongitude 39.3°. SCT 235mm, f/6.3, DMK21AU04.AS



TYCHO RAYS-Orlando Benitez Sanchez-Canary Islands, Spain. March 3, 2012. Seeing 5/10,
Transparency 3/6. SCT 235mm, f/6.3, DMK21AU04.AS, IR cut filter.

Left: 21:22 UT, Colongitude 39.8°.

Right: 22:01 UT, Colongitude 39.2°.

COPERNICUS - Maurice Collins-Palmerston North, New Zealand. April 2, 2012 08:53 UT. ETX-90, LPI.



LUNAR TRANSIENT PHENOMENA

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

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

LTP NEWSLETTER – MAY 2012

Dr. Anthony Cook - Coordinator

Routine observations for March 2012 were received from the following observers: Jay Albert (Lake Worth, FL, USA) observed: Alpetragius, Alphonsus, Aristarchus, Biot, Briggs, Censorinus, Cleostratus, Eratosthenes, Plato, Posidonius, Pythagoras, the South Pole, Schickard, Torricelli B, and Tycho. Rolf Carstons (New Zealand) took a whole disk image of the Moon. Maurice Collins (New Zealand) took an image of Copernicus and whole disk images of the Moon. Marie Cook (Mundesley, UK) observed: Alphonsus, Aristarchus, Bullialdus, Censorinus, Copernicus, Eratosthenes, Hercules, Kunowsky, Messier, Mons Pico, Pico B, Plato, Posidonius, Proclus, Tycho, and Yerkes. I took time lapse video of the Moon and also videod Earthshine, looking for impact flashes from Aberystwyth University (to gain additional footage for my undergraduates). Peter Grego (St Dennis, UK) observed Menelaus. Rolf Hempel (Germany) took a whole disk image of the Moon. Norman Izett (New Zealand) took whole disk images of the Moon. Jim McAloon (New Zealand) observed Aristarchus, and Mare Humorum. Pietre Malinski (Poland) imaged several areas of the Moon. Bob O'Connell (Keystone Heights, FL, USA) observed Alphonsus, Aristarchus, Briggs, Manilius, Menelaus, South Pole, and Schickard. Peter Odin (Germany) took a whole disk image of the Moon. Brendan Shaw (UK) imaged Aristarchus, Eratosthenes, Plato, Mare Crisium, Torricelli B, Tycho, and several other features.

News: It was interesting to read Nigel Longshaw's article in the March BAA Lunar Section Circular on a sunrise and sunset appearances of the floor of Plato, and how these may explain some LTP reports about this crater from the past. I will certainly be updating the weights of many of the past Plato LTP reports in due course, and probably even taking some out of the LTP category. But for now, please keep on observing at the times given in the predictions web site, because even if some of the original reports are not LTP, by all accounts they are still spectacular to observe and anyway make useful additions to the routine observations database that I am using to calibrate the LTP database with.

Routine Reports: As usual, space is rather limited to describe all of the routine reports sent in, but here are just a few highlights from March 2012:

- 1) **Mare Crisium:** On 2008 Jul 07 UT 05:28-08:36 Maurice Collins imaged a very bright spot on the northern shore line of Mare Crisium. As you can see from figure 1 (Left) this was appreciably brighter than other features in the area. We gave this observational report a LTP weighting of 1 originally, because although a ray crater can be found near the top end of a (45° according to LRO) slope at this

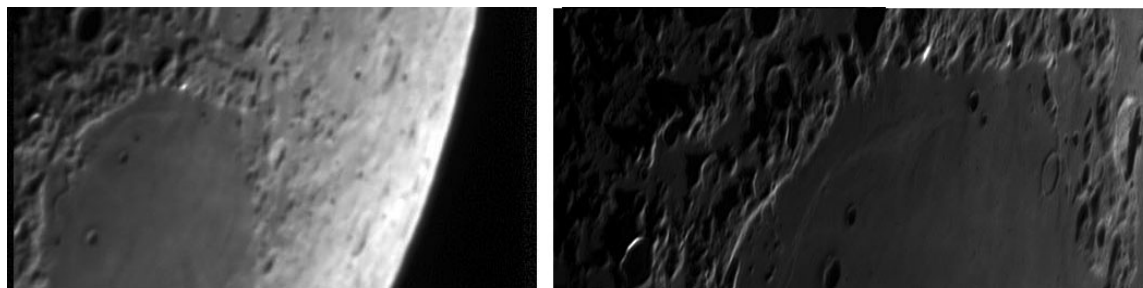


Figure 1 (Left) Maurice Collins image from 2008 Jul 7 showing a tiny but very bright dot on the northern shore of Mare Crisium – north is towards the top right. **(Right)** Brendan Shaw's image from 2012 Mar 27 UT 18:51 with a similar very bright white spot near the top of the image.

location in the Consolidated Lunar Atlas, the Kaguya Lunar atlas, and also in Apollo and LRO images, it did seem somewhat brighter than what one might expect from this ray crater alone. I was therefore very interested to see an image by Brendan Shaw, from about a day later in colongitude that showed a similarly very bright spot here. Now that we have this, and it matches the brilliance, I am happy to eliminate this from the LTP list, even though it is not exactly similar illumination. I am also removing Don Spain's report on a bright spot from 2005 Jan 15 (a daylight observation) from the LTP list, and a couple of reports by Peter Andersen from 1980 Mar 20 and Apr 21. Malcolm Ellis wrote in a letter to the BAA Lunar Section circular (1980, p65) indicating that this spot is at its brightest between colongitudes of 310° - 350° , with it peaking in brightness at 320° . He also commented that it is the brightest spot on the Moon up until nearly first quarter. So although not regarded as a LTP site any longer, observers might want to keep an eye open for this feature to test out the claims that it can appear to be one of the brightest points on the Moon, for a certain set of phases. I guess that doing a brightness threshold on digital images would be a good test to see how it ranks with Proclus and Censorinus in terms of brilliance.

- 2) **Prinz:** On 1975 Feb 22 UT 19:00-22:50 Peter Foley, using a 30cm reflector (seeing good) observed Prinz to have a diffuse white obscuration with pulsations of 30-50 sec intervals. The effect

Figure 2. Prinz by Piotr Malinski taken on 2012 Mar 04 at UT 19:30 with north at the top.

faded and had ceased by 22:50. Photographs were taken but showed nothing unusual, and no color was seen. On 2012 Mar 04 UT Piotr Malinski took some high resolution images of the Moon; one of them covered Prinz crater and can be seen in figure 2. This clearly shows no sign of anything that might have resembled an obscuration. Therefore the weight for the Foley LTP observation will remain at 2; not quite making it to a 3 because the photographs taken at the time did not reveal anything, but of course old fashioned photographic resolution was always worse than visual resolution.

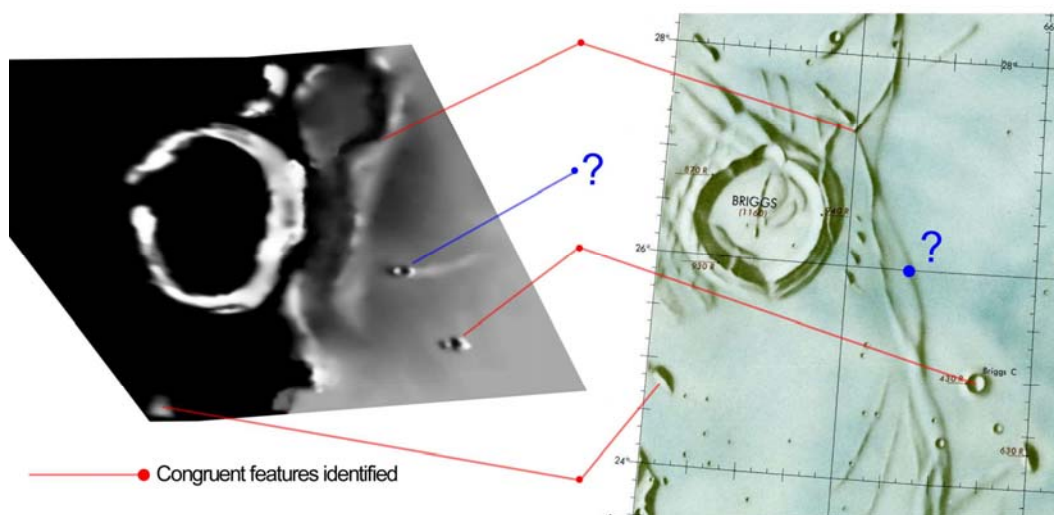
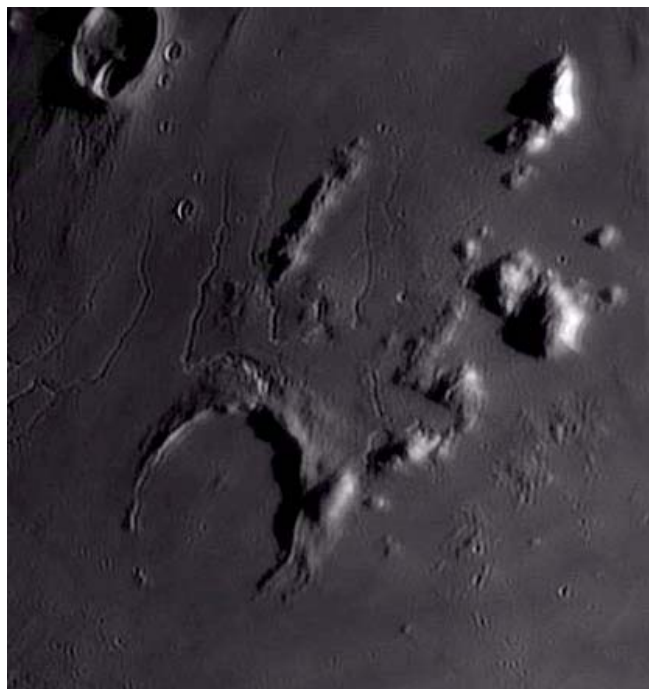


Figure 3. Peter Grego's PDA sketch of Briggs from 2010 Apr 27 with north at the top.

- 3) **Kunowsky:** On 1964 Sep 22 UT 03:25-04:30 Gilheany, Hall and Johnson (Port Tobacco, MD, USA,), using a 40 cm reflector, under good seeing conditions, detected a red area in this 18 km diameter crater (SW of Copernicus), using a Trident electronic Moon Blink device. Marie Cook checked out the crater under the same illumination conditions on 2012 Mar 8 UT 22:05-22:15, and found that the crater looked brighter in a red filter too, although she was using a smaller 90mm Questar telescope (seeing Antoniadi III, transparency moderate to poor). I have checked the Clementine UVVIS Multispectral Mosaic on Map-a-Planet Explorer (<http://www.mapaplanet.org>) but cannot find a natural reddish color to this crater, so maybe it is an effect specific to this phase angle? Kunowsky would certainly be in interesting challenge for color imaging enthusiasts within the Lunar Section!
- 4) **Briggs.** On 2010 Apr 27 UT 00:10-00:30 and 01:45-02:00 Peter Grego (20 and 30 cm reflectors) sketched Briggs and found a craterlet to the east that did not appear on the NASA LAC chart of this area, and there was also an E-W curvilinear marking coming off this crater to the east. See figure 3. Brendan Shaw in March 2011 re-imaged the area and confirmed the craterlet did exist, but that there was no sign of the E-W marking. Jay Albert and Bob O'Connell re-observed visually under similar illumination conditions on 2012 Mar 06. Jay used a 28 cm SCT with transparency at 4th magnitude and seeing varying from (4-6)/10. Jay observed from 03:50-04:20 UT at x311 and reported: *"The tiny craterlet close to and E of Briggs was easy to see, even when the seeing deteriorated to 4/10. This tiny craterlet is E of the N-S wrinkle ridge bordering Briggs to the E and N of the two larger craterlets SE of Briggs. The latter two craterlets are shown on chart 17 of Rukl, but the tiny craterlet is not. I could not detect an "E-W trending lineament or wrinkle ridge". I could plainly see the ejecta ray running NE from Seleucus, but no wrinkle ridge. There were a couple of low hills lined up to the E of the tiny craterlet, but they weren't connected and didn't form a ridge. Briggs itself was just beyond the terminator with only its exterior E wall rising out of the shadow. Bob observed at 04:20-04:26 UT in white light using a 23 cm SCT, with a x160 Binoviewer (seeing 3/10). He saw the eastern rim of Briggs on the terminator and detected the craterlet just to the east of Briggs, but like Jay, did not see the E-W trending lineament. Bob captured an image earlier at 03:29 UT and this can be seen in figure 4, again no sign of the E-W lineament. So the issue concerning Peter Grego's original observation is not the craterlet failing to be present on maps (it does appear on Lunar Orbiter imagery from the 1960's), but why does the E-W lineament not show again? I am raising the weight of this LTP report from a 1 to a 2. Let's keep on looking, trying to get higher resolution imagery at sunrise over this area to see if we can fathom out what was seen?"*

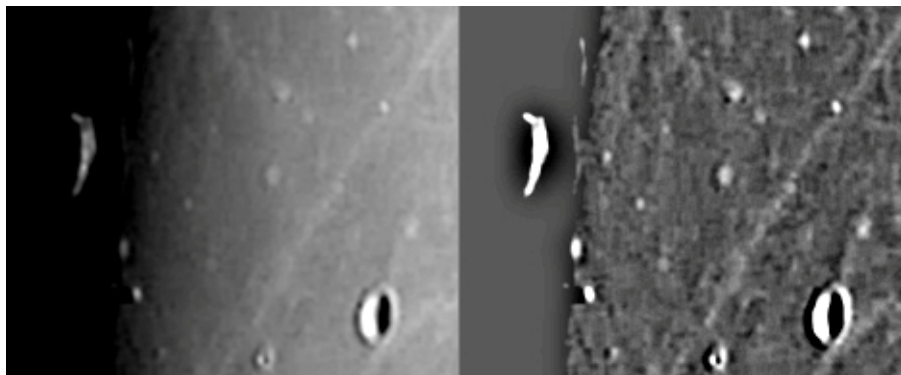


Figure 4. (Left) Bob O'Connell's image of Briggs from 2012 Mar 06. (Right) Same image but after undergoing high pass filtering (radius 9 pixels) to remove large scale brightness trends. The dark shading either side of Briggs is an artefact of image enhancement. North is towards the top.

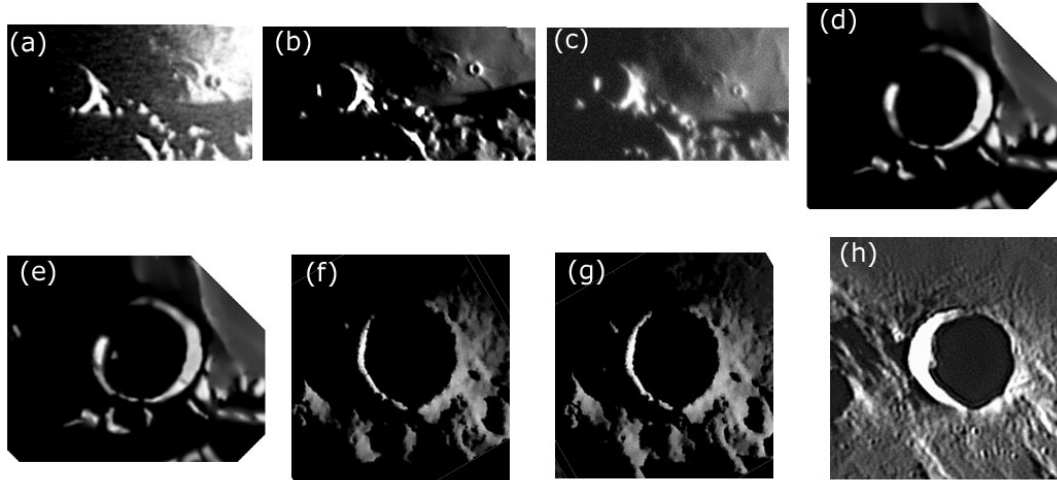


Figure 5. The following Menelaus images, sketches and simulations all have north towards the top and are from 2012 Mar 28 unless specified otherwise. (a) Image by Brendan Shaw from 17:55 UT (Col.=341.8°). (b) Image by Rolf Hempel from 18:59 UT (Col.=342.3°). (c) Image by Peter Odin from 19:37 UT (Col.=342.6°). (d) PDA sketch by Peter Grego from 21:10-21:22 UT (Col.=343.5°). (e) PDA sketch by Peter Grego from 21:40-21:51 UT (Col.=343.7°). (f) ALVIS simulation for 21:46 UT (Col.=343.7°). (g) ALVIS simulation for 22:46 UT (Col.=344.2°) or 0.5° later to take into account the angular diameter of the solar disk. (h) Image by Bill Leatherbarrow from 2009 Apr 01 UT 18:58 (Col.=350.0).

LTP Reports: One LTP report was received during March. On 2012 Mar 28 Peter Grego was making some PDA sketches of Menelaus at sunrise using a 10 cm refractor at x132 (Seeing Antoniadi II). All seemed to be a normal sequence in the four sketches made at: 19:45-20:00, 20:25-20:38, 21:10-21:22, and 21:40-21:51 UT, except that upon checking up later, on the last sketch (Figure 5e) Peter noticed an illuminated patch just inside the western rim, that does not show up in the previous sketch (Figure 5d) or on other images taken earlier that night of sunrise over the crater (Figure 5a-c). Bill Leatherbarrow found an image from a higher sun angle that shows something closer to the floor (Figure 5h), however computer simulations with ALVIS do not replicate the illuminated patch at the time of Peter's sketch (Figure 5f), or even allowing illumination from over the entire half a degree angular diameter of the solar disk (Figure 5g). A check on NASA's LRO LOLA topographic dataset (See Figure 6) shows no obvious terrace on the inner

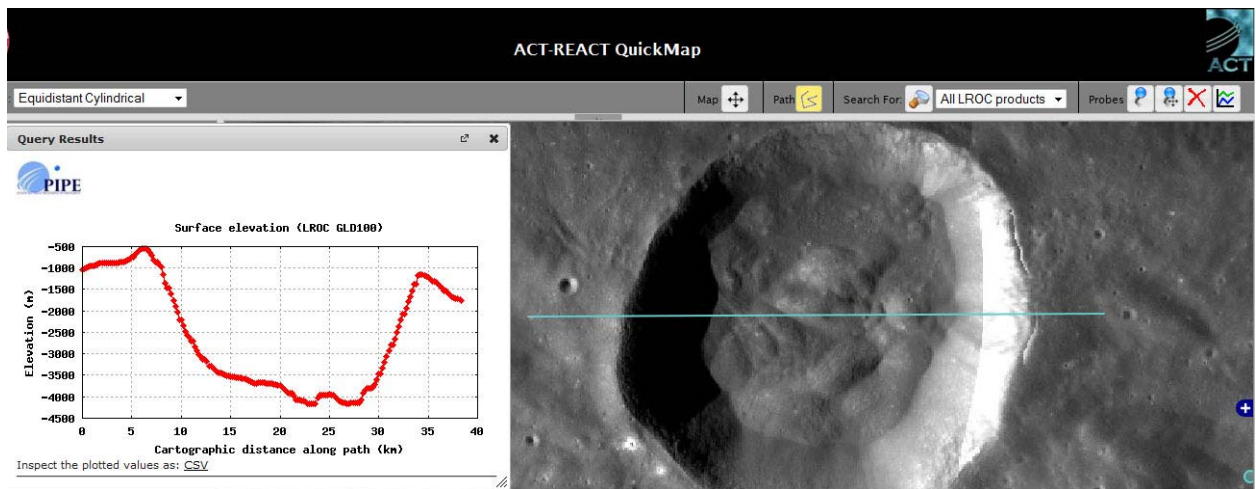


Figure 6. Topographic cross-sectional profile through Menelaus from East to West using ACT-REACT QuickMap available on the LROC web site: <http://target.lroc.asu.edu/da/qmap.html>

crater wall. So therefore I am therefore assigning a weight of 3 to this report for now, until we obtain some imagery closer to the same illumination and can determine if perhaps the illuminated spot is due to something like scattered light from the lit part of the crater lighting up some bright albedo marking in the shadow?

Suggested Features to observe in May: For repeat illumination (only) LTP predictions for the coming month, these can be found on the following web site: <http://users.aber.ac.uk/atc/tlp/tlp.htm> . By re-observing and submitting your observations, we will get a clear understanding of what the feature ought to have looked like at the time. Only this way can we really fully analyze past LTP reports. 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! Twitter LTP alerts can be accessed on <http://twitter.com/lunarnaut>.

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KEY TO IMAGES IN THIS ISSUE

1. Bohnenberger
2. Copernicus
3. Dorsum Oppel
4. Gassendi
5. Gutenberg
6. Julius Caesar
7. Janssen
8. LaCondamine
9. Menelaus
10. Plinius
11. Polybius
12. Pyrenees Mountains
13. Spitzbergen Mountains
14. Theophilus
15. Tycho

FOCUS ON targets

X = Bullialdus (July)

Y = Aristillus (September)

