THE LUNAR OBSERVER

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

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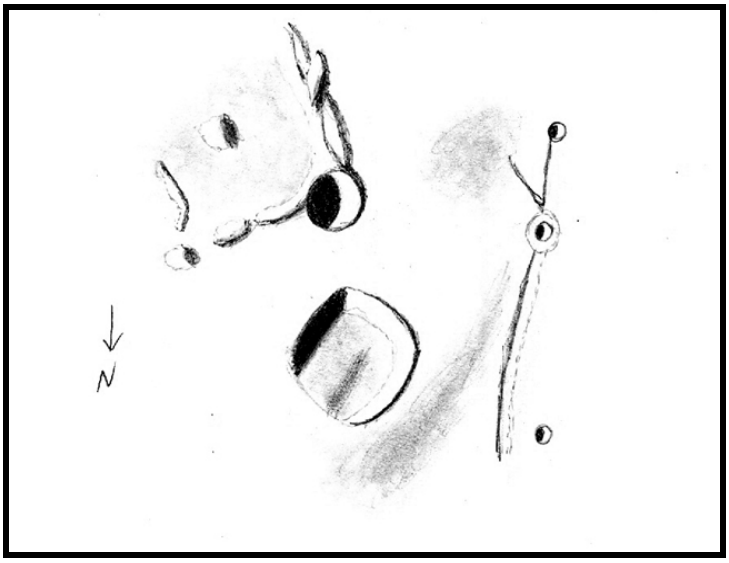
RECENT BACK ISSUES: http://moon.scopesandscapes.com/tlo_back.html

FEATURE OF THE MONTH – AUGUST 2011

BODE



Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
April 13, 2011 04:00-04:30 UT, 15 cm refl, 170x, seeing 7/10

I sketched this crater and vicinity on the evening of April 12/13, 2011 shortly before the near-graze of an 8th-magnitude star. Bode lies west of Mare Vaporum, not far from the center of the visible disk. Bode itself is a squarish-shaped crater with a dusky band slightly west of center. There is a noticeable gray area north and west of Bode. Nearby is a slightly curved rille extending approximately north-south. This rille is close to a line of three small craters; from north to south they are Bode D, G and L. Bode G is surrounded by a halo. The rille is identified as Bode III on the Lunar Quadrant map. It is much wider and easier north of Bode G than south of that crater. This rille is not evident within the halo of Bode G. A short narrow rille branches off to the southeast near Bode G; this is Bode IV on the LQ map. Another gray patch is at the end of this rille east of Bode L. The large deep crater just south of Bode is Pallas A. Ridges and peaks drawn south and east of Pallas A are part of the broken ring of Pallas. The isolated peak southeast of Pallas A may

be a central peak of Pallas. The interior of Pallas is quite gray, similar to the aforementioned patches. There is a very smooth light area east of Bode and north of Pallas with no noticeable detail.

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LUNAR CALENDAR

AUGUST-SEPTEMBER 2011 (UT)

Aug. 01	09:00	Moon 1.5 SW of Mercury
Aug. 02	21:00	Moon at Perigee (365,755 km – 227,270 miles)
Aug. 04	06:00	Moon 7.2 Degrees SSW of Saturn
Aug. 06	11:08	First Quarter
Aug. 08	23:18	Extreme South Declination
Aug. 10	05:00	Moon 3.3 Degrees S of Pluto
Aug. 13	18:57	Full Moon
Aug. 14	12:00	Moon 5.2 Degrees NNW of Neptune
Aug. 17	07:00	Moon 5.7 Degrees NNW of Uranus
Aug. 18	16:24	Moon at Apogee (405,159 km – 251,754 miles)
Aug. 20	09:00	Moon 4.7 Degrees NNW of Jupiter
Aug. 21	21:56	Last Quarter
Aug. 23	12:18	Extreme North Declination
Aug. 25	13:00	Moon 2.6 Degrees S of Mars
Aug. 27	24:00	Moon 2.4 Degrees SSW of Mercury
Aug. 27	03:03	New Moon (Start of Lunation 1097)
Aug. 29	08:00	Moon 6.4 Degrees SSW of Venus
Aug. 30	17:36	Moon at Perigee (360,857 km – 224,226 miles)
Aug. 31	20:00	Moon 6.9 Degrees SSW of Saturn
Sept. 04	17:39	First Quarter
Sept. 05	05:00	Extreme South Declination
Sept. 06	11:00	Moon 3.0 Degrees S of Pluto
Sept. 10	19:00	Moon 5.3 Degrees NNW of Neptune
Sept. 12	09:26	Full Moon
Sept. 13	14:00	Moon 5.6 Degrees NNW of Uranus
Sept. 15	06:24	Moon at Apogee (406,067 km – 252,318 miles)
Sept. 16	17:00	Moon 4.6 Degrees N of Jupiter
Sept. 19	20:06	Extreme North Declination
Sept. 20	13:39	Last Quarter
Sept. 23	04:00	Moon 4.6 Degrees SSW of Mars
Sept. 27	09:00	Moon 6.3 Degrees SSW of Mercury
Sept. 27	11:08	New Moon (Start of Lunation 1098)
Sept. 28	01:02	Moon at Perigee (357,555 km – 222,174 miles)
Sept. 28	06:00	Moon 5.5 Degrees SSW of Venus
Sept. 28	09:00	Moon 6.6 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 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 is on-line at: **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.

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 has 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: Posidonius

Focus on is a bi-monthly series of articles, which includes observations received for a specific feature or class of features. The subject for the **September 2011** edition will be **Posidonius**. 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 this crater to your observing list and send your favorites to:

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

Deadline for inclusion in the Posidonius article is August 20, 2011

FUTURE FOCUS ON ARTICLES:

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

Mare Humorum TLO Issue: November 2011 Deadline: October 20, 2011

ALPO 2011 CONFERENCE

The 2011 Annual Conference of the Association of Lunar and Planetary Observers was held at New Mexico State University, Guthrie Hall Room 201, in Las Cruces, New Mexico, Friday and Saturday, July 22-23, 2011, hosted by the Las Cruces Astronomical Society. Optional excursions took place on Wednesday, July 20th to White Sands Missile Range and the National Solar Observatory at Sunspot, and on Thursday, July 21st to the National Radio Astronomy Observatory's Very Large Array near Socorro. In addition to two days of presentations, the Friday night barbeque included a surprise visit to Clyde Tombaugh's former home, and the Saturday evening banquet featured talks by ALPO founder Walter Haas, and Frederick Pilcher.

Two of the presentations (Bob O'Connell on the current state of TLP research, and myself on the effects of astmospheric dispersion) dealt with lunar topics. As usual, all the presentations were informative. I expect the JALPO will include a more detailed report later. The summer monsoon greeted those who took the tours. At NSO a thunderstorm and 52 degree temperatures greeted us. However, the storm cleared by the scheduled tour time, so we got the full tour. Likewise, at the VLA, there were intermittent rain showers, but nothing that interfered with the tour. Overall, the Las Cruces weather was warm but pleasant, apparently nicer than the weather at home in New Jersey. Pictures of most of the activities follow.

The Bay of Rainbows and the "Moon Maiden"

Phil Morgan

The Sinus Iridum or Bay of rainbows was first named so by the Italian astronomer Giovanni Battista Riccioli (1598-1671) and must be one of the most often observed of all lunar features. This magnificent structure some 146 miles in diameter is so huge that the Jura Mountains, that form the northern border, can be seen with the unaided eye as a small arc of light stretching into the darkness of the morning terminator. My latest observation (Figure 1), was made on the 12th May at an early colongitude of 30 degrees, and depicts a fine spire of shade stretching across the Bay from the Prom. Laplace, with a lesser one from a small peak to the west. It also shows first light on a tiny segment of the eastern rampart of the

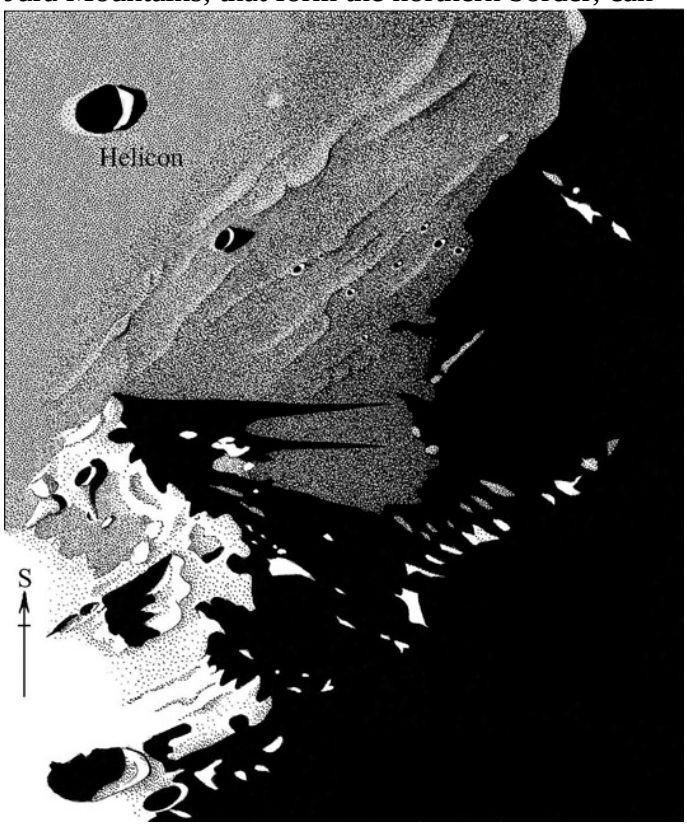

FIGURE 1: THE BAY OF RAINBOWS AT SUNRISE **–** *Phillip Morgan –Lower Harthall-Tenbury Wells, Worcestershire, England. May 12, 2011. 20:30-21:15 UT, Colongitude 30.3°-30.7°. Seeing 8/10, Transparency 4/5. 305mm, f/5, Newtonian, 400x.*

25 mile-wide crater Bianchini, with to the west, just a few isolated peaks of the Jura Mountains catching the first rays of the rising early morning Sun. This mountain arc was named by the German cartographer Debes (1840-1923) and comes from the Jura Mountains that border France and Switzerland. At a slightly later colongitude of about 36 degrees more of these peaks are illuminated and give rise to the so called "Jeweled Handle" a name coined by Sir Patrick Moore, but also sometimes known as the "Golden Handle" under opposite lighting. The Prom. Laplace is a small plateau that rises about 3,000 metres above the mare surface and is topped by the small crater Laplace D. Far to the west the other "horn" of the Bay is marked by the Prom. Heraclides, which is only about half the height of Laplace. By a remarkable coincidence, given the right conditions of lighting, both of these promontories can give rise to one of the Moon's most famous clair-obscur effects (from French for "light" (clair) and "shadow" (obscure) usually a short-lived interplay of light and shadow on the Moon's surface) known as the " Moon Maiden", an effect first seen by Cassini (1625-1712) and depicted on his Moon map of 1679 at the Prom. Heraclides (Figure 2). There appears to be some confusion here over the "Moon Maiden" because Walter Goodacre describes the effect as located at the Prom. Laplace at sunset when a woman's head and shoulders can be seen (Figure 3).

FIGURE 2: ***Cassini's "Moon Maiden" at the Prom. Heraclides.*** *Taken from his "Carte de lune", 1679*

At sunrise, at the Prom Heraclides, also a woman's profile can be noted (Figure 4). Just to confuse matters more, the photograph in figure 5 was taken in 1956 with the 82-inch reflector at the McDonald University, Texas, and appears to show at the bottom left the profile of a

woman's head with her hair flowing to the right, at the site of the crater Maupertuis. So there are at least three "Moon Maiden's" around the Bay of Rainbows!! Can you find anymore?

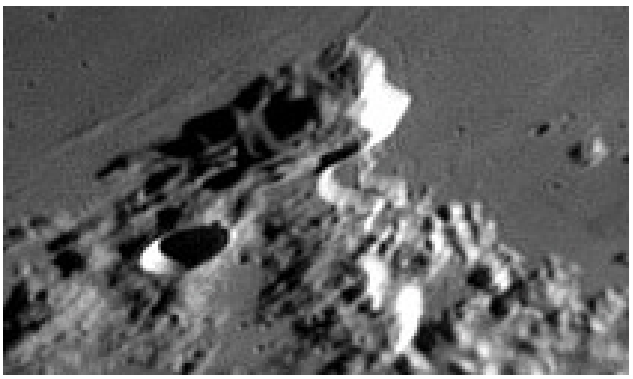

FIGURE 3: **"Moon Maiden" as seen at the Prom. Laplace at Sunset.**

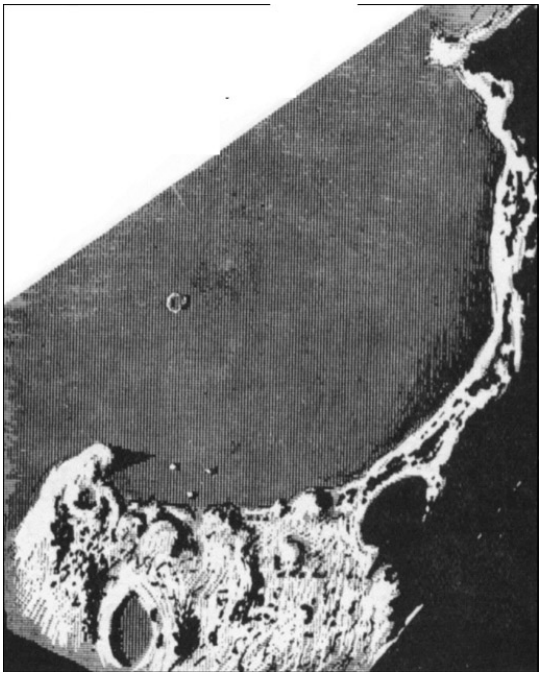

FIGURE 4: **Bay of Rainbows as drawn by Arthur Mee (1860-1926). Note the seated lady with flowing hair at Prom. Heraclides.**

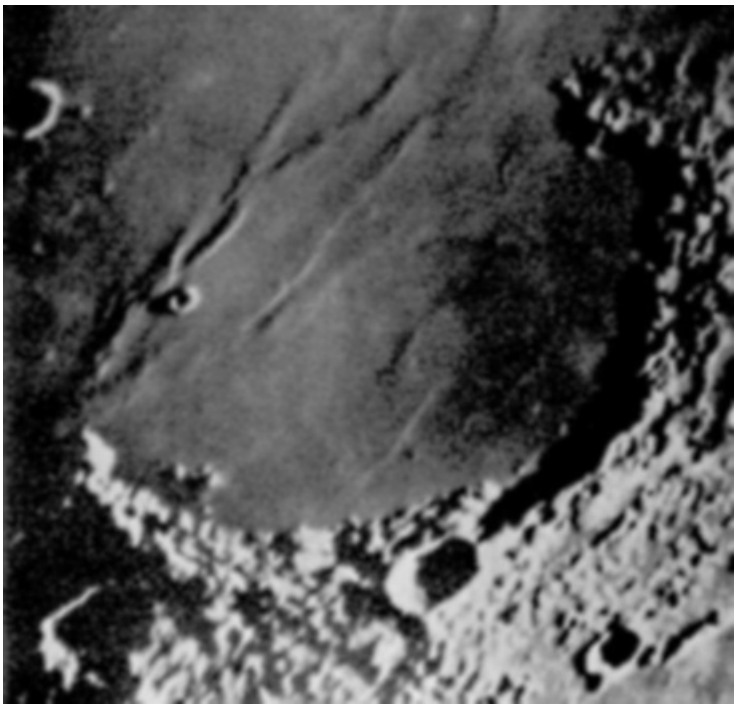

FIGURE 5: **Bay of Rainbows. McDonald Observatory, Texas, USA. 1956, 82 inch Reflector.**

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

MAURICE COLLINS - PALMERSTON NORTH, NEW ZEALAND. Digital images of 3, 9, 11, 13, 15, 16, 17, 18, & 26 day moon, 1st Qtr, & Full Moon.

HOWARD ESKILDSEN - OCALA, FLORIDA, USA. Digital images of Humbold, northwest Moon, Schiller-Zucchius, & Stevenus A-Funerius A.

PETER GREGO – ST. DENNIS, CORNWALL, UK. Drawings of Eratosthenes & Pythagoras.

ROBERT HAYS, Jr. – WORTH, ILLINOIS, USA Drawings of Bode & Kepler.

PHILLIP MORGAN –LOWER HARTHALL-TENBURY WELLS, WORCESTERSHIRE, ENGLAND. Drawing of Sinus Iridum.

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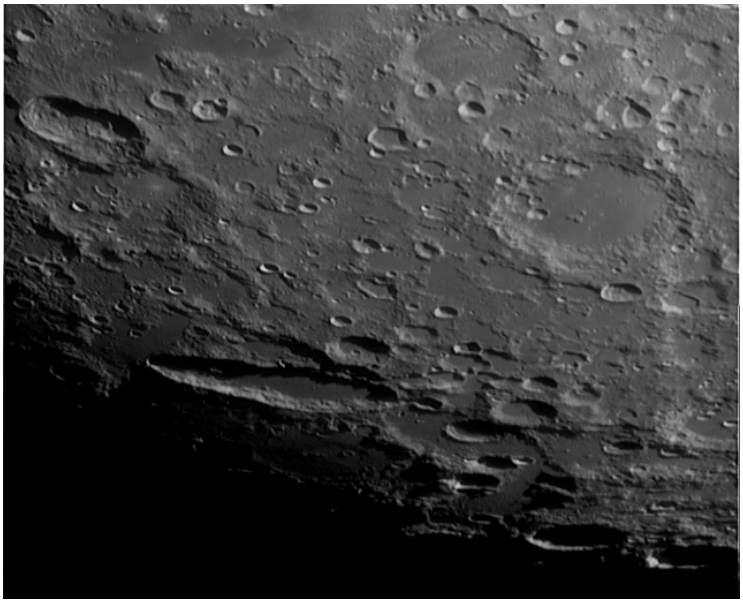
RECENT TOPOGRAPHICAL OBSERVATIONS

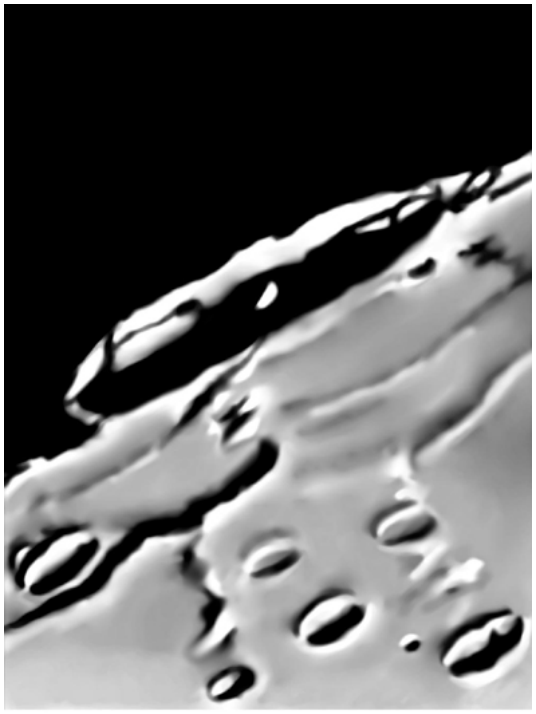
17 DAY MOON - Maurice Collins-Palmerston North, New Zealand. July 18, 2011 10:13 10:44 UT. ETX-90, LPI.

RECENT TOPOGRAPHICAL OBSERVATIONS

SCHILLER-ZUCCHIUS BASIN INNER RING - Howard Eskildsen-Ocala, Florida, USA. July 12, 2011 01:06 UT. Seeing 7/10, Transparency 5/6. 6" f/8 refractor, Explore Scientific lens 2X Barlow, DMK 41AU02.AS, IR block & V block filters.



At the bottom center of the photo, part of the battered multi-ringed Schiller-Zucchius basin is clearly visible. The tortured, elongated crater Schiller obliterates part of the basin's outer northern rim, but the rim continues to the right and curves downward to be lost in the darkness at the northern margin of Zucchius. Part of smaller inner ring matches the curvature of the outer ring just to the right of center, while a depression between the widest portion of Schiller and the dark terminator hints at a third, innermost ring of this multi-ringed basin. The basin if often referred to as a double ringed basin, but it has been suggested in the past that there are actually three rings. This photo supports that hypothesis.



PYTHAGORAS– Peter Grego, St. Dennis, Cornwall, UK. July 13, 2010 23:10-23:35 UT. Colongitude 68.6-68.8º. Seeing AII, moon elevation 15° in the south. 200 mm SCT, 100 & 200X, binoviewer, no filter.

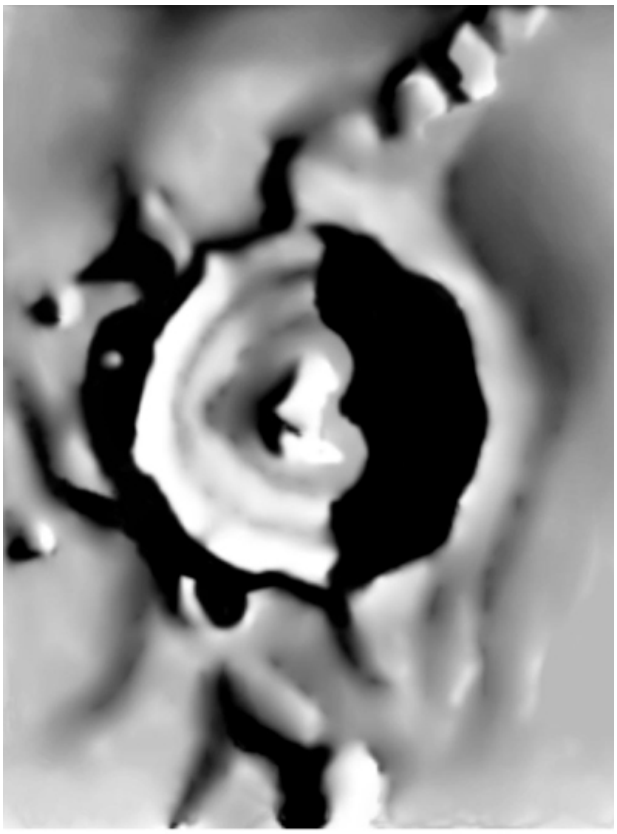
Sunrise over Pythagoras near the Moon's northern limb. Libration was slightly unfavourable for this area, and I would not normally sketch the Moon at such a low altitude, but the pull of this crater was irresistible. Pythagoras was largely filled with shadow cast by its eastern rim, but the central peak was illuminated along with the upper parts of the crater's inner western wall. A line of terracing was evident along the southern part of the inner western wall, and terracing had also begun to emerge from the northern end of the wall. A dark breach in the eastern flanks of the outer wall led to the crater Babbage; the northern part of Babbage was depicted, including the floor craters Babbage A and Babbage C. Adjoining Babbage, part of the crater South was also depicted. The conjoined crater Horrebow to the southeast was observed, along with Robinson, South B and the southern part of J. Herschel and its illuminated inner wall. The terrain mid-way between J. Herschel and Pythagoras showed a ridge-like feature parallel with the eastern wall of Pythagoras. A pleasing study, if not overly detailed, and an area worth returning to under a similar illumination but better conditions all round.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

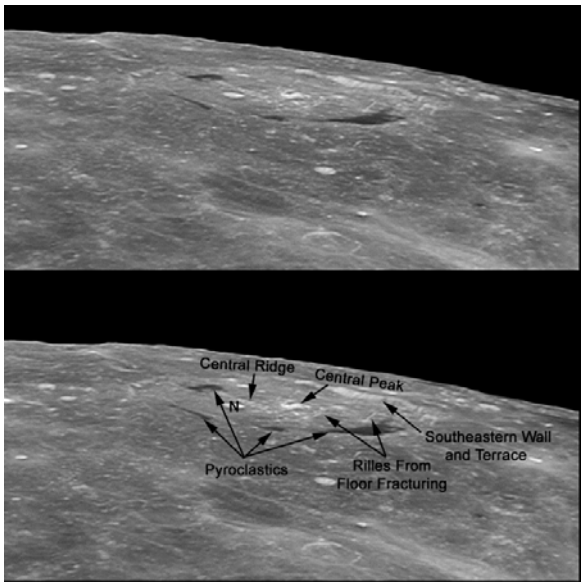
26 DAY MOON - Maurice Collins-Palmerston North, New Zealand. July 27, 2011 19:07-19:16 UT. Windy. ETX-90, LPI.

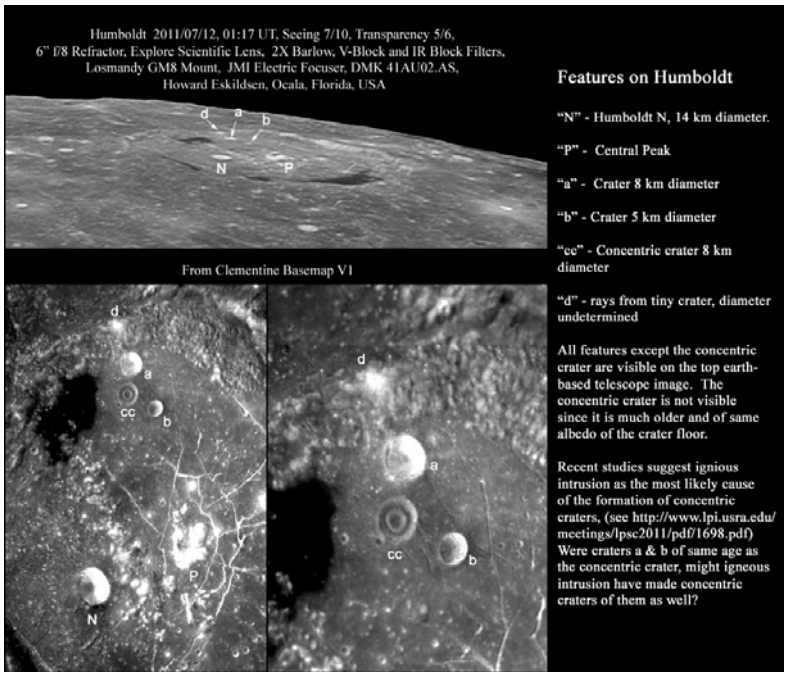
ERATOSTHENES– Peter Grego, Paul Stephens' observatory, Long Marston, Warwickshire, UK. July 9, 2010 20:45-20:55 & 21:20-21:35 UT. Colongitude 18.4-18.8º. Seeing AIII, twilight, moon low, hazy cloud. 175 mm MCT, 50 & 100X, no filter.

Poor seeing and a low Moon in twilight, with some hazy cloud towards the end of the session made for difficult conditions. The general features of Eratosthenes and its immediate area were observed. Eratosthenes was some distance from the morning terminator, its eastern rim casting a shadow which covered around a third of the crater's interior. The central peaks were seen, along with terracing along the middle of the inner western wall. The inner northern wall was less bright than the rest of the inner wall. The peaks of the southern Montes Apenninus, north of Eratosthenes, were nicely illuminated; to the crater's southwest was the hefty unnamed mountain block lying between Eratosthenes and Stadius (Stadius is not depicted in this sketch). Eratosthenes H was also observed.



ADDITIONAL TOPOGRAPHICAL OBSERVATIONS





HUMBOLDT - Howard Eskildsen-Ocala, Florida, USA. April 18, 2011 03:22 UT. Seeing 7/10, Transparency 5/6. 6" f/8 refractor, Explore Scientific lens, 3X Barlow, DMK 41AU02.AS, IR block & V block filters.

A recent imaging session got me thinking about Humboldt again, especially after the recent LPOD that featured the crater. My humble image and the Clementine V1 basemap image yield insights that support the hypothesis that igneous intrusion is the cause of concentric craters. The images reveal that Humboldt's concentric crater is by far the oldest crater of close-knit trio on the crater floor, since space weathering has darkened it to the point that it no longer contrasts with the crater floor. The other craters are bright and fresh. By the time the two other craters appeared, the intrusives had cooled and solidified and could not alter the latter craters into concentric craters. Not absolute proof, but certainly consistent with the hypothesis.

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BRIGHT LUNAR RAYS PROJECT

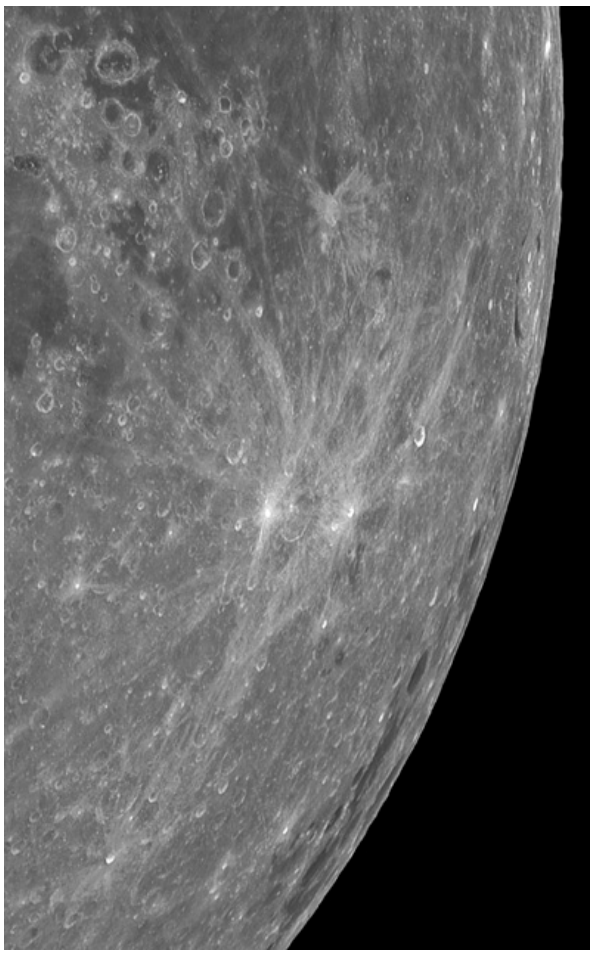
Coordinator – Wayne Bailey – wayne.bailey@alpo-astronomy.org

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

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

RECENT RAY OBSERVATIONS

13 DAY MOON - Maurice Collins-Palmerston North, New Zealand. July 14, 2011 11:40-12:04 UT. Supersaturated color. ETX-90, LPI.



STEVINUS A & FURNERIUS A - - Howard Eskildsen-Ocala, Florida, USA., July 12, 2011 01:27 UT. Seeing 7/10, Transparency 5/6. 6" f/8 Explore Scientific lens refractor, 3x Barlow, DMK 41AU02.AS, IR-UV block filter.

LUNAR TRANSIENT PHENOMENA

Coordinator – Dr. Anthony Cook – atc@aber.ac.uk
Assistant Coordinator – David O. Darling - DOD121252@aol.com

LTP NEWSLETTER – AUGUST 2011

Dr. Anthony Cook - Coordinator

Observations for June 2011 were received from the following observers: Jay Albert (Lake Worth, FL, USA) observed: Agrippa, Censorinus, Picard, Plato, Proclus, Pytheas, and Swift. Maurice Collins (New Zealand) observed: Aristarchus, the lunar eclipse, Marius, Schickard, and took whole disk images. Marie Cook (Mundesley, UK) observed: Beaumont, Censorinus, Copernicus, Messier & A, Moltke, Mons Pico, Mons_Piton, Plato, Proclus, and Promontorium Agarum. Colin Henshaw (Saudi Arabia) captured: whole disk images of the Moon, Earthshine, and the lunar eclipse. Norman Izett (New Zealand) observed: The lunar eclipse and took a whole disk image of the Moon. Kerry Koppert (New Zealand) took a whole disk image of the Moon. Piotr Malinksi (Poland) observed: Aristarchus, Hevelius and took a whole disk image of the Moon. Shaw (UK) observed: Alphonsus, Mare Humboldtianum, Plato, Proclus, Promontorium Agassiz, Ross D, Torricelli, and Tycho. Hamish Watchman (New Zealand) took a whole disk image of the Moon. We seem to have a really good set of contributors from New Zealand this month, and Colin Henshaw deserves a special mention because he has imaged the Moon for the majority of days in June.

News: Thanks to the understanding of several observers that I contacted, requesting them to resubmit their observations, it has been possible to reconstruct must of the missing observational archive, from mid March to mid May, that was lost when my laptop hard drive broke. A few additional files from this period were also recovered by the system manager at work who quite literally froze the hard drive, took it apart and then somehow managed to get it working again for short periods, though directories and files were often mixed up. The moral of the story is everybody should do backups as often as possible!

In the last TLO article (Fig 2)I mentioned that a WAC image showed that Linne was a double crater. This was perhaps a poor choice of words – the WAC image showed “two apparent concentric craters” at Linne. In fact this is probably an optical illusion. Bill Leatherbarrow (BAA Lunar Section director) has pointed out that the LROC NAC images show there is no sign of concentric craters here, but instead there is bright scree slope starting at the location of the proposed inner crater) and this may cause this apparent effect. (See http://www.nasa.gov/mission_pages/LRO/multimedia/lroimages/lroc-20110314-linne.html. I have found another example video here (See http://spaceports.blogspot.com/2011/04/linne-crater-not-just-another-hole-in.html) and this shows the inverted truncated cone shape of the crater quite clearly and highlights the difference to other more parabolic interior craters.

I would like to thank Alexandre Amorim, from Florianopolis, Brazil for pointing out a reference to a LTP observation by Jose Brazilicio de Souza on May 11 in Revue l'Astronomie, vol 9 (1890), p. 73-74, which you cannot find in the Cameron catalog. I have summarized the report below:

1885 May 11 UT 08:00 Gutenberg area (somewhere in the highlands between Mare Nectaris and Mare Fecundatis). J. Braziliano de Souza (Florianopolis, Brazil) observed in Earthshine two small luminous red points. He changed the eyepieces but the effect remained. The LTP was discovered at 05:00 local time - or 08:00 UT. Alas Sun rise occurred not long after the discovery and so the development of the LTP could not be followed. No other observers were around to confirm the report. ALPO/BAA weight=2.

Brendan Shaw has been investigating his Tycho observation from 2003 May (See figure 1) when he imaged the central peak of the crater about 0.9° in solar altitude before it should have been visible in sunrise. Even allowing for the angular radius of the Sun, experiments that Brendan performed with LTVT showed that it was appearing at least 0.6° too early. We would therefore very much like to encourage you to try to

image the shadowed interior of Tycho at the following dates and UTs over the next few months in order to see how early we can push the appearance of the central peak of Tycho. What we think is happening is that the illuminated rim is scattering light inside the crater and this is illuminating the central peak sufficiently for it to be seen in shadow. If this is not the explanation, and the central peak is sometimes visible and sometimes not at the same solar altitude, then we must invoke a LTP explanation. This is a very interesting experiment to perform, seeing detail inside shadowed areas, so please take part and encourage other astro-imaging folks to join in.

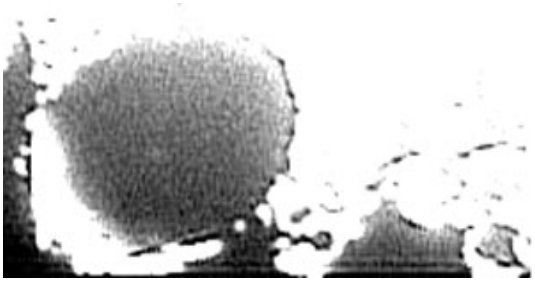


Figure 1 – The ghostly central peak of Tycho.

So please try to image Tycho at the times given in Table 1, remembering that slightly over exposed images will help to see detail inside the shadow. Visual observers can attempt this, but we suspect that CCD will be more effective at picking out the faint central peak. Two previous years are also included if anybody would like to check back through their records.

LTP Reports: No LTPs were reported in June.

Routine Reports: On 2011 Jun 09 UT 03:00-03:10 Jay Albert re-observed Agrippa under the same illumination conditions to a Bartlett LTP outlined below:

Agrippa 1966 Oct 24 UT 01:48-02:12 Observed by Bartlett (Baltimore, MD, USA, 5" reflector, x283, S=6, T=3-2) "Shadow of c.p. light & greyish, scarcely distinguishable from floor. (sun is quite high (39deg) so shadow ought to be nearly gone)."NASA catalog weight=4 (good). NASA catalog ID #985.ALPO/BAA weight=1.

Jay's observing conditions were not ideal, but comments: "The crater's central peak was bright and its black shadow was seen easily against the light-medium grey floor. Though smaller, the shadow of neighboring Bodin's central peak was also seen. Jay used a NexStar 6" SCT (x214) without filters. The sky had haze of varying thickness. Transparency was magnitude 2 and seeing was 4/10. Now the instruments sizes and transparency were similar, and yet Jay saw a black shadow, whereas Bartlett saw a light and grayish shadow. I had previously assigned a weight to Bartlett's report of 1, as he had reported grey shadows in Agrippa a little too often for my liking. However after reading Jay's report on how clearly seen the black shadow was, I am tempted to raise Barlett's LTP weight up to 2 as I now feel he ought to have seen the black shadow.

On 2011 Jun 14 Piotr Malinski obtained a high resolution monochrome image of Aristarchus that matched the same illumination and topocentric libration to Ron Livesey's LTP report from 1996 Oct 25UT19:05-19:55 to within +/-1° . We have examined the LTP before, but only under similar illumination conditions. Although not showing the image here, I can confirm that simulations using Piotr's image of atmospheric spectral dispersion, definitely create the red tinge seen on the east and south east edges of Aristarchus and the SW ray. Once again however the spurious color should have been seen on other features too by Ron Livesey, and it was not. Therefore the 1996 LTP report, keeps its very low weight of 1.

Piotr also sent me a rather nice image of what at first appears to be a long shadow coming off the terminator, close to the lunar western limb (See Figure 2). I suspect though that this is caused by topography just to the west of Lohrmann, as I can also see it in Plate 39 of Rükl's Hamlyn Atlas of the Moon.

2009		2010		2011		2012	
Jan-04 UT18:27	to 21:27	Jan-08 UT18:42	to 21:42	Jan-13 UT03:35	to 06:35	Jan-02 UT12:01	to 15:01
Jan-19 UT11:00	to 14:00	Jan-23 UT19:06	to 22:06	Jan-27 UT15:34	to 18:34	Jan-16 UT23:24	to 02:24
Feb-03 UT10:35	to 13:35	Feb-07 UT07:43	to 10:43	Feb-11 UT19:21	to 22:21	Feb-01 UT03:46	to 06:46
Feb-17 UT23:49	to 02:49	Feb-22 UT10:48	to 13:48	Feb-26 UT04:52	to 07:52	Feb-15 UT13:05	to 16:05
Mar-05 UT02:06	to 05:06	Mar-08 UT20:36	to 23:36	Mar-13 UT09:49	to 12:49	Mar-01 UT18:19	to 21:19
Mar-19 UT12:15	to 15:15	Mar-24 UT01:08	to 04:08	Mar-27 UT18:11	to 21:11	Mar-16 UT02:55	to 05:55
Apr-03 UT16:16	to 19:16	Apr-07 UT09:21	to 12:21	Apr-11 UT22:34	to 01:34	Mar-31 UT07:12	to 10:12
Apr-18 UT00:27	to 03:27	Apr-22 UT13:44	to 16:44	Apr-26 UT07:19	to 10:19	Apr-14 UT16:36	to 19:36
May-03 UT04:44	to 07:44	May-06 UT21:57	to 00:57	May-11 UT09:39	to 12:39	Apr-29 UT18:27	to 21:27
May-17 UT12:31	to 15:31	May-22 UT00:42	to 03:42	May-25 UT20:10	to 23:10	May-14 UT05:51	to 08:51
Jun-01 UT15:37	to 18:37	Jun-05 UT10:25	to 13:25	Jun-09 UT19:32	to 22:32	May-29 UT04:31	to 07:31
Jun-16 UT00:36	to 03:36	Jun-20 UT10:30	to 13:30	Jun-24 UT08:40	to 11:40	Jun-12 UT18:32	to 21:32
Jul-01 UT01:24	to 04:24	Jul-04 UT22:46	to 01:46	Jul-09 UT04:59	to 07:59	Jun-27 UT14:06	to 17:06
Jul-15 UT12:50	to 15:50	Jul-19 UT19:53	to 22:53	Jul-23 UT20:52	to 23:52	Jul-12 UT06:39	to 09:39
Jul-30 UT10:50	to 13:50	Aug-03 UT11:05	to 14:05	Aug-07 UT14:48	to 17:48	Jul-27 UT00:00	to 03:00
Aug-14 UT01:19	to 04:19	Aug-18 UT05:42	to 08:42	Aug-22 UT08:53	to 11:53	Aug-10 UT18:21	to 21:21
Aug-28 UT20:44	to 23:44	Sep-01 UT23:28	to 02:28	Sep-06 UT01:43	to 04:43	Aug-25 UT10:55	to 13:55
Sep-12 UT14:06	to 17:06	Sep-16 UT16:41	to 19:41	Sep-20 UT20:52	to 23:52	Sep-09 UT05:50	to 08:50
Sep-27 UT07:50	to 10:50	Oct-01 UT11:58	to 14:58	Oct-05 UT14:13	to 17:13	Sep-23 UT23:18	to 02:18
Oct-12 UT03:08	to 06:08	Oct-16 UT05:19	to 08:19	Oct-20 UT08:57	to 11:57	Oct-08 UT17:23	to 20:23
Oct-26 UT20:36	to 23:36	Oct-31 UT00:36	to 03:36	Nov-04 UT04:23	to 07:23	Oct-23 UT13:16	to 16:16
Nov-10 UT16:20	to 19:20	Nov-14 UT19:40	to 22:40	Nov-18 UT21:19	to 00:19	Nov-07 UT05:19	to 08:19
Nov-25 UT11:06	to 14:06	Nov-29 UT13:25	to 16:25	Dec-03 UT19:55	to 22:55	Nov-22 UT04:33	to 07:33
Dec-10 UT05:33	to 08:33	Dec-14 UT11:22	to 14:22	Dec-18 UT10:07	to 13:07	Dec-06 UT17:54	to 20:54
Dec-25 UT02:53	to 05:53	Dec-29 UT02:24	to 05:24			Dec-21 UT20:27	to 23:27

***Table 1**. Suggested times to look for the central peak of Tycho, whilst it is still in shadow. Note that observers must check that the Moon will be visible from their geographical observing site before attempting any of these.*

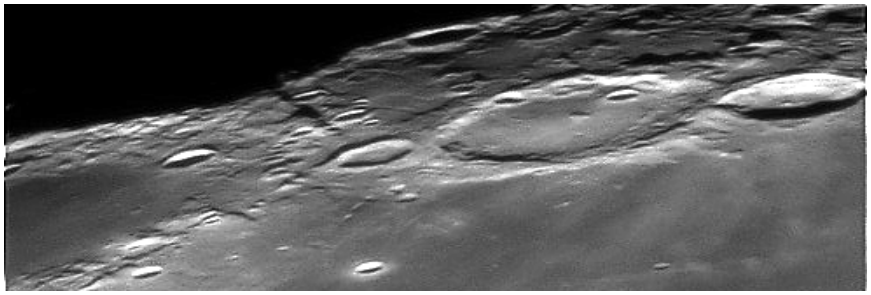


Figure 2. Pitor Malinski's image – Grimaldi (left) and Hevelius (right of centre). 2011 Jun 14 UT 21:44. North is to the right.

On 2011 Jun 08, both Maurice Collins and Hamish Watchman were busy producing image mosaics of the Moon. This covered a period when Gundlach observed the following LTP on lunar surface in Maurolycus:

Maurolycus 2000 Aug 06 UT 23:45 observed by Gundlach (Bolivia, telescope with Sony Camcorder) "Observer reported capturing an abnormality near the rim. Darling, suspects that this is a normal appearance based upon a later observation under similar illumination." ALPO observation. ALPO/BAA weight=1.

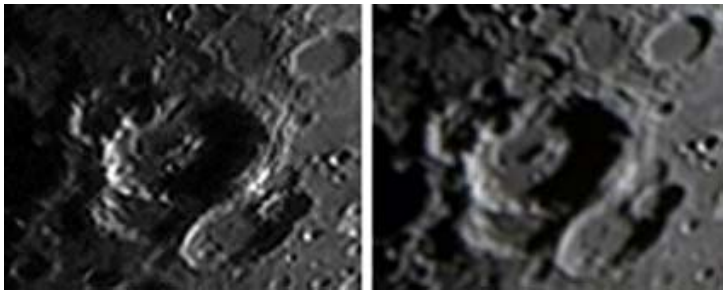


Figure 3. Maurolycus crater imaged on 2011 Jun 08 with north at the top. Left: extract from a UT 05:50-06:20 mosaic by Hamish Watchman. Right: extract from a UT 05:26-06:23 mosaic by Maurice Collins.

Although I do not possess a copy of the Gundlach images, looking at Maurice Collins' image in Figure 3, I suspect it might have been the fuzzy area on the SE rim. Hamish's image is sharper, presumably due to better seeing conditions, therefore its probably that the LTP report from 2000 may have been seeing related? If anybody has a copy of that original LTP image, please could they send it to me for examination. This LTP will remain at a weight of 1 for now.

Suggested Features to observe in August: 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 .For members who do not have access to the internet, please drop me a line and I will post predictions to you. If you would like to join the LTP telephone alert team, please let me know your phone No. and how late you wish to be contacted. If in the unlikely event you see a LTP, please give me a call on my cell phone: +44 (0)798 505 5681 and I will alert other observers. Note when telephoning from outside the UK you must not use the (0). When phoning from within the UK please do not use the +44! Twitter LTP alerts can be accessed on http://twitter.com/lunarnaut.

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KEY TO IMAGES IN THIS ISSUE

1. **Bode**
2. **Eratosthenes**
3. **Grimaldi-Hevelius**
4. **Humboldt**
5. **Maurolycus**
6. **Pythagoras**
7. **Schiller-Zucchius**
8. **Sinus Iridum**
9. **Stevinus A-Furnerius A**
10. **Tycho**

FOCUS ON targets

X = Posidonius (September)
Y = Mare Humorum (November)