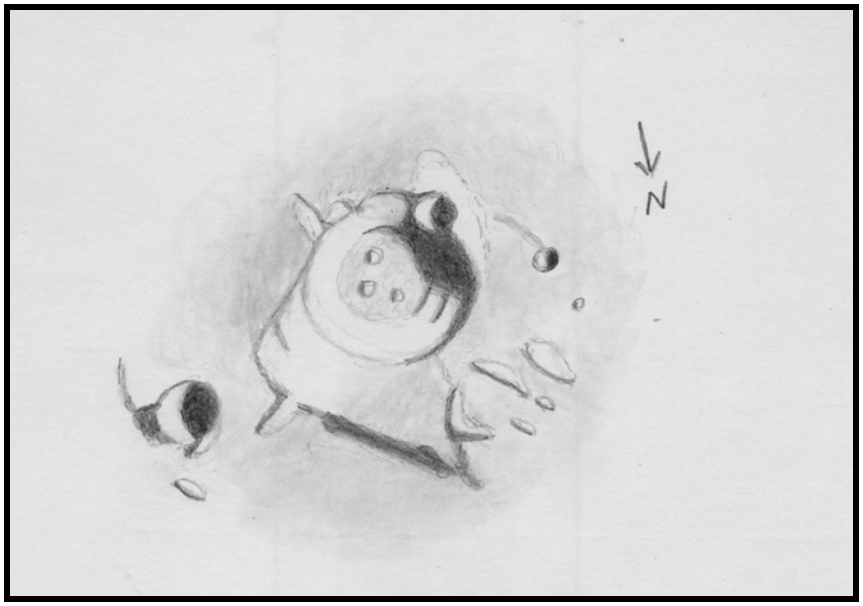
THE LUNAR OBSERVER

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 – NOVEMBER 2010

CICHUS



Sketch and text by Robert H. Hays, Jr. - Worth, Illinois, USA
July 4, 2010 08:05-08:41 UT
15 cm refl, 170x, seeing 8-6/10

I sketched this crater and vicinity on the morning of July 4, 2010 after the occultation of 45 Piscium. This crater lies in a mottled area south of Mare Nubium. Cichus itself appeared triangular in shape with blunt points on its east and west sides, and a round bulge on its southern rim. This bulge resulted from either a slump or another impact. Cichus C is perched on the rim of Cichus just west of the bulge. The interior of Cichus is well shadowed near Cichus C, but less so north of the west side point; there is evidence of terracing there. There are at least three small peaks on the floor of Cichus. Cichus B is the large crater east of Cichus. This crater has a substantial exterior shadow along its northeast edge. A narrow strip of shadow dangles south from this exterior shadow. A long strip of shadow is between Cichus and Cichus B, and two

elongated peaks are nearby. There is a smooth mare-like area north of the widest area of this shadow strip and one of the nearby peaks; this might be the ghost ring Weiss as shown on the Lunar Quadrant map. A group of peaks and ridges northwest of Cichus may likewise be the broken ring Cichus J. The small pit west of Cichus is Cichus H, and a narrow strip of shadow extends from it toward Cichus C. There is a bright area around Cichus C, between moderate duskiness to the west and a darker area southeast of Cichus. A ridge protrudes from the southeast rim of Cichus into this darker area.

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LUNAR CALENDAR

NOVEMBER-DECEMBER 2010 (UT)

Nov. 02	00:00	Moon 0.62 Degrees NNE of asteroid 3 Juno
Nov. 03	17:23	Moon at Perigee (364,188 km - 226,296 miles)
Nov. 04	01:00	Moon 7.3 Degrees SSW of Saturn
Nov. 05	07:00	Moon 1.1 Degrees W of Venus
Nov. 06	04:51	New Moon (Start of Lunation 1087)
Nov. 07	03:00	Moon 1.8 Degrees SSW of Mercury
Nov. 07	23:00	Moon 1.7 Degrees SSE of Mars
Nov. 08	17:00	Extreme South Declination
Nov. 13	16:37	First Quarter
Nov. 14	01:00	Moon 4.6 Degrees NNW of Neptune
Nov. 15	11:48	Moon at Apogee (404,633 km - 251,427 miles)
Nov. 16	09:00	Moon 6.6 Degrees NNW of Jupiter
Nov. 16	18:00	Moon 5.9 Degrees NNW of Uranus
Nov. 21	17:28	Full Moon
Nov. 23	04:24	Extreme North Declination
Nov. 28	15:36	Last Quarter
Nov. 30	19:10	Moon at Perigee (369,438 km - 229,558 miles)
Dec. 01	13:00	Moon 7.4 Degrees SSW of Saturn
Dec. 02	18:00	Moon 6.2 Degrees SSW of Venus
Dec. 05	17:36	New Moon (Start of Lunation 1088)
Dec. 06	02:12	Extreme South Declination
Dec. 06	23:00	Moon 0.78 Degrees NE of Mars
Dec. 07	07:00	Moon 2.0 Degrees NNW of Mercury
Dec. 11	10:00	Moon 4.7 Degrees NNW of Neptune
Dec. 13	08:36	Moon at Apogee (404407 km - 251,287 miles)
Dec. 13	13:58	First Quarter
Dec. 13	21:00	Moon 6.6 Degrees NNW of Jupiter
Dec. 14	00:00	Moon 6.0 Degrees NNW of Uranus
Dec. 20	12:36	Extreme North Declination
Dec. 21	08:14	Full Moon (Total eclipse of Moon)
Dec. 25	12:25	Moon at Perigee (368,462 km - 228,952 miles)
Dec. 27	15:00	Moon 1.6 Degrees S of asteroid 3 Juno
Dec. 27	23:18	Last Quarter
Dec. 28	22:00	Moon 7.5 Degrees SSW of Saturn
Dec. 31	15:00	Moon 6.9 Degrees S of Venus

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: Marius-Reiner Gamma

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 **January 2011** edition will be the Marius-Reiner Gamma Area. This area includes domes, craters, rilles, hills, mare, and a major swirl feature. 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 area to your observing list and send your favorites to:

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

Deadline for inclusion in the Marius-Reiner Gamma article is December 20, 2010

FUTURE FOCUS ON ARTICLES:

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

Central Peaks with craters	**TLO Issue: Mar. 2011**	**Deadline: Feb. 20, 2010**

Note: Rik Hill has pointed out three craters (Plinius, Walther, Regiomontanus) that have central peaks with craters superimposed on them. These are probably chance impacts, but I don't know of any list of such features. How many other examples can you find? And does anyone know of an existing list?

FOCUS ON: Milichius-Tobias Mayer Area

By Wayne Bailey
Acting Coordinator: Lunar Topographical Studies

The Focus on subjects this time lie in the region south of Mare Imbrium between the prominent craters Copernicus and Kepler. The mare areas in this region are now known as Mare Insularum. On the north, the Montes Carpatus form part of the southern rim of Mare Imbrium. Much of the region contains isolated and clustered small hills that appear to be ejecta from Copernicus that was subsequently partially buried by a thin layer of mare lavas. An unusually long

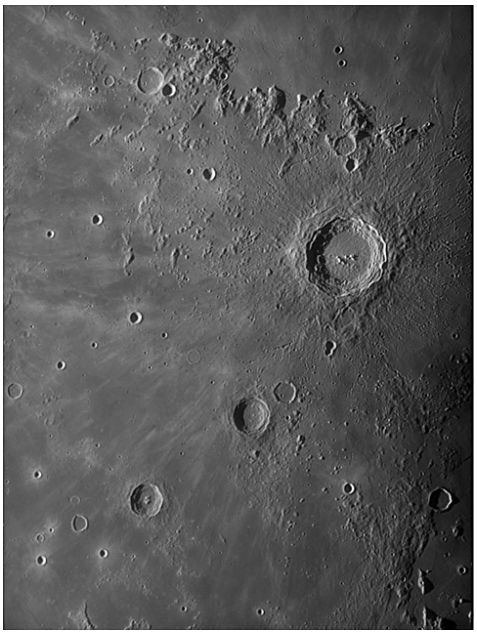


FIGURE 1: ***TOBIAS MAYER-HORTENSIUS AREA-****Howard Eskildsen-Ocala, Florida, USA. October 1, 2010 10:07 UT. Seeing 8/10, Transparency 5/6. 8" f/8 refractor, 2x barlow, DMK 41AU02.AS, W-8 yellow filter.*

crater chain extends from near Copernicus to north of T. Mayer C. Since the spectacular craters Copernicus and Kepler flank it, the region is often overlooked, although it contains a variety of fascinating objects (Fig. 1).

Although Tobias Mayer (hereafter T. Mayer), at 33 km diameter and 2920 m depth, is very slightly larger than Kepler (32 km/ 2570 m), it is not as well known, probably because it doesn't exhibit an extensive ray system, and is somewhat inconspicuous, superimposed on the western end of the Montes Carpatus. T. Mayer A is the simple, round crater touching the east wall (Fig. 2).

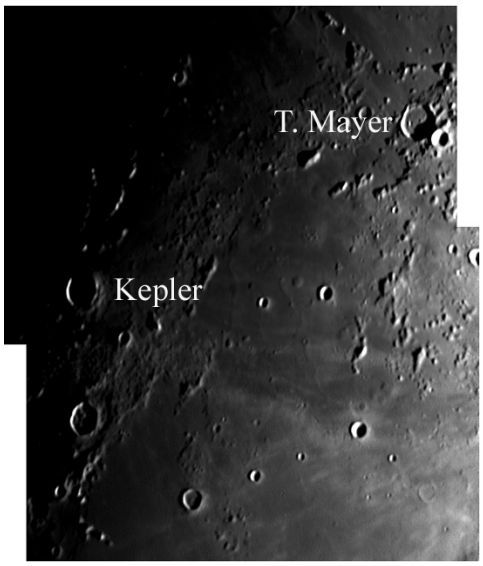
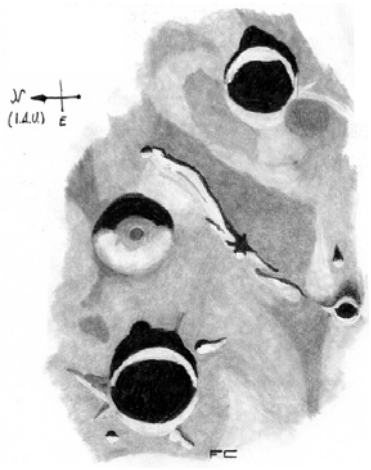


FIGURE 2: ***KEPLER-T. MAYER-HORTENSIUS.*** *Wayne Bailey-Sewell, NJ, USA. October 3, 2006 01:46 UT, Seeing 5/10, Transparency 3/6, Colongitude 39.3º. C-11 SCT f/10, Toucam, Schuler IR72 filter.*

The walls of T. Mayer are somewhat irregular, with gaps in the north and south walls, and a prominent ravine on the inner northwest wall (Fig. 3). Several small hills are in the northeast quadrant of the floor, near the center and the inner wall, and several small craters form a V-shaped feature southwest of the center. A small deep rille begins just north of the hill adjacent to the outer

FIGURE 3: ***T. Mayer****. Howard Eskildsen-Ocala, Florida, USA. May 30, 2004 01:05 UT. 10"refractor.Arrows mark some domes.*

west wall, runs north parallel to the wall for a short distance, then appears to turn west to a cluster of small craters. A short distance to the west lies the round, flooded



crater T. Mayer B. The Rima Draper, east of T. Mayer is most easily recognized where it slices through the hills of the Montes Carpatus.

Milichius is the small (13 km) bowl shaped crater south of T. Mayer whose walls barely extend above the surrounding plain. It lays approximately midway between Kepler and Copernicus, slightly north of a line joining them. The smaller crater Milichius A is a short distance southwest of it. The prominent dome, Milichius π with its summit crater, is visible to the west of Milichius whenever the solar elevation angle is even moderately low (Fig. 4). A similar, sharp-rimmed bowl crater, Hortensius (14.6 km), is southeast of Milichius.

FIGURE 4. MILICHIUS, MILICHIUS π, MILICHIUS A. *Fred Corno-Settimo Torinese, Italy. May 23, 2010 20:05 UT. Seeing & Transparency good, sparse clouds. 5" Apochromatic refractor, 208&260x.*

These three craters, T. Mayer, Milichius and Hortensius, mark an area with numerous domes (Fig. 5) and ridges (Fig. 6). Just northeast of Hortensius six domes are arranged in three pairs. At least five of these domes have pits on their summit. I've already mentioned Milichius π, but careful examination will reveal another dome northwest of it on the mare plain, and an elongated, dome-like structure with a cluster of small hills on its southern flank to the north of Milichius π. Nestled in the hills south of T. Mayer lays a cluster of several (at least 8 or 9) domes, and another dome is west of T. Mayer C & D. Most of these domes exhibit summit pits and are shown on Rukl plates 30 & 31.Most domes are broad shallow features, difficult to see except with very low angle illumination. The domes in this area are typically 6-12 km diameter and only about 100 m high. Milichius π is steeper than average, so it is visible over a wider range of illumination angles. There are at least three possibilities for their origin. They may be surface bulging due to intrusion of underground magma, a feature known as a lacolith. They may be cinder cones resulting from explosive volcanic eruptions. Or they may be shield volcanoes resulting from relatively quiet volcanic eruptions. The prevalence of summit pits (interpreted as volcanic vents) on domes in this area tends to support a volcanic

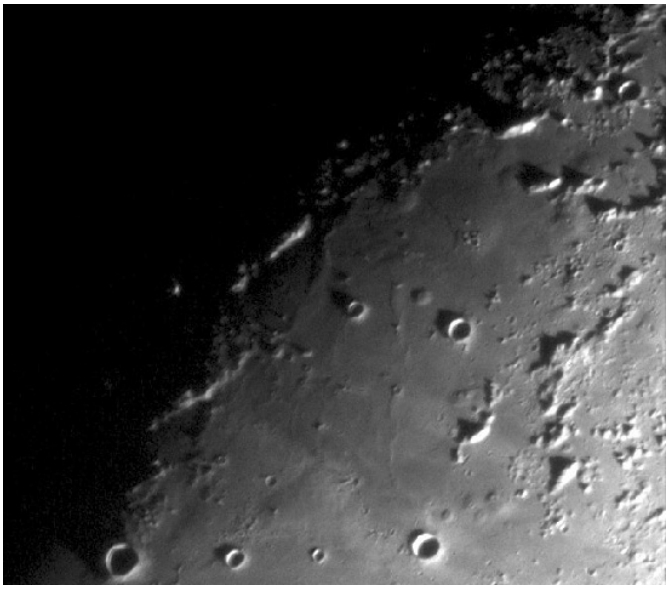


FIGURE 5. MILICHIUS-HORTENSIUS DOMES. *Ed Crandall – Winston-Salem, North Carolina, USA. June 10, 2003 02:26 UT. 10" Newtonian, Starlight Express HX 516.*

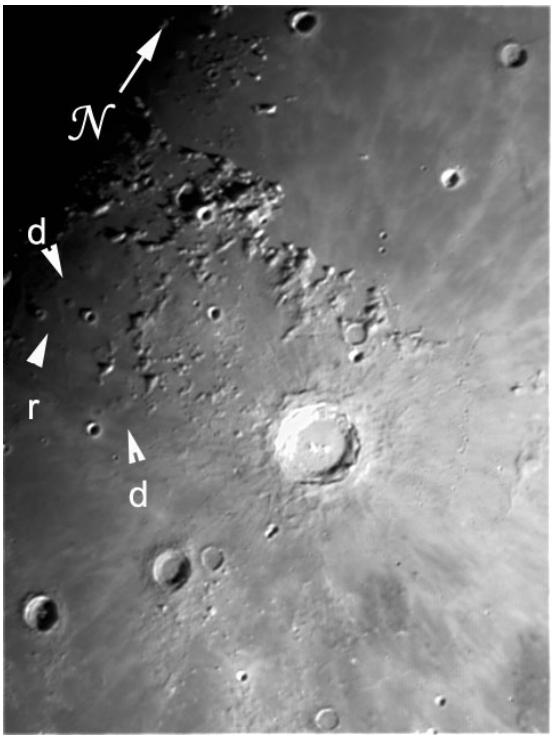


FIGURE 6. T. MAYER AREA. *Antonius J Schalken – 'Luar' Observatory, Melbourne, Victoria, Australia. August 23, 2007 11:54 UT. Seeing 5/10, Colongitude 33.6º. Rumak_Maksutov 6" f/10, ToUcam Pro II 740K. d=domes, r=ridge.*

source. The shallow slopes seem to favor shield volcanoes. A final decision on their origin will most likely require in-situ geological examination. It's entirely possible that several formation mechanisms have operated. One unanswered question is why domes exist in isolated groups. They preferentially occur around the margins of mare basins, but only at isolated spots, not continuously around the margin. Is there some mechanism that limited where volcanic activity occurred? Or was there a mechanism that initiated volcanic activity only in specific locations (maybe post-mare formation)? Or was volcanic activity widespread but these are simply the regions that happened to not be buried by later mare lavas?

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.
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.
Wlasuk, Peter. 2000. Observing the Moon. Springer-Verlag, London.
Wood, Charles. 2003. The Moon: A Personal View. Sky Publishing Corp. Cambridge.

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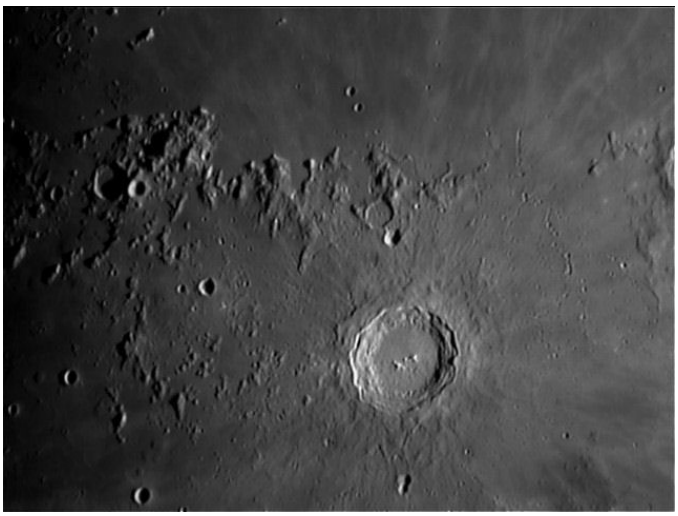
ADDITIONAL T.MAYER-MILICHIUS IMAGES

COPERNICUS-MILICHIUS-HORTENSIUS-
Maurice Collins - Palmerston North, New Zealand. October 18, 2010 07:41 UT. Seeing AII-III with wind. C8, SCT, 2x barlow, LPI.



T. MAYER-MONTES CARPATUS-COPERNICUS- Ed Crandall – Lewisville, North Carolina, USA. October 29, 2009 00:07 UT. Seeing AIII. Colongitude 35.5º. 110 mm f/6.5 APO, 2.4x barlow, ToUcam.

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, 6, 8, 10, 11 & 12 day moon, Full Moon, Copernicus, Sinus Iridum & Tycho.

FRED CORNO - SETTIMO TORINESE, ITALY. Drawing of Milichius.

ED CRANDALL – LEWISVILLE, NORTH CAROLINA, USA. Digital images of Eratosthenes, Montes Riphaeus, Plato & Straight Wall.

WILLIAM DEMBOWSKI – WINDBER, PENNSYLVANIA, USA. Digital images of Lacus Mortis, Posidonius-Mare Serenitatis, Snellius-Janssen, & South Polar Region. Banded crater report for Proclus.

HOWARD ESKILDSEN - OCALA, FLORIDA, USA. Digital images of Aristarchus, Clavius, Gambart, Grimaldi, Guericke, Hortensius, Lambert, Mare Humorum, Mare Imbrium, Montes Recti, Pitatus(2) & Sinus Iridum

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

PHILLIP MORGAN –LOWER HARTHALL-TENBURY WELLS, WORCESTERSHIRE, ENGLAND. Drawing of Gay Lussac-Montes Carpatus.

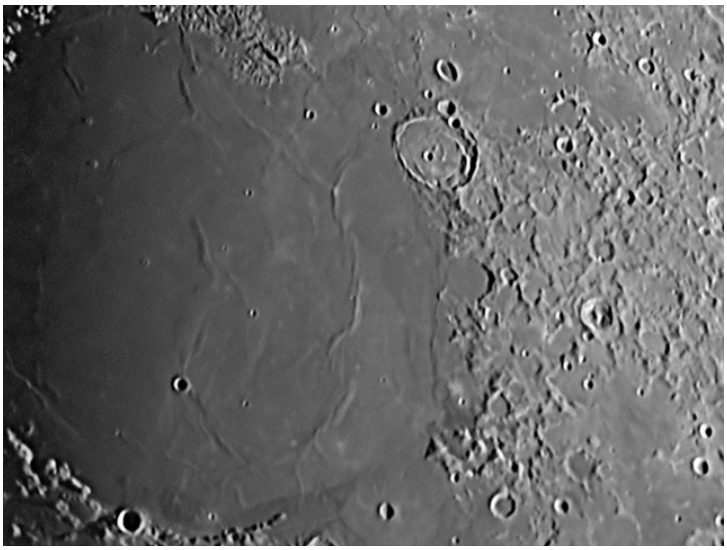
TONY SCHALKEN – MELBOURNE, AUSTRALIA Digital images of T. Mayer-Milichius(2).

RECENT TOPOGRAPHICAL OBSERVATIONS

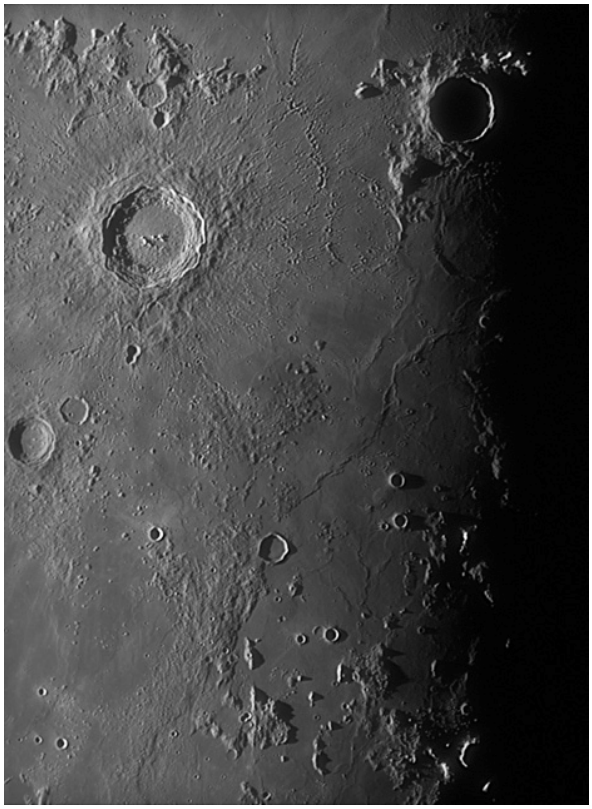
FULL MOON-Maurice Collins - Palmerston North, New Zealand. October 22, 2010 09:55-10:31 UT. Seeing AII-III with wind. ETX-90, LPI.

RECENT TOPOGRAPHICAL OBSERVATIONS

MONTES RIPHAEUS – Ed Crandall – Lewisville, North Carolina, USA. September 1, 2010 09:31 UT. Seeing AIII. Colongitude 183.2º. 110 mm f/6.5 APO, 3x barlow, ToUcam.

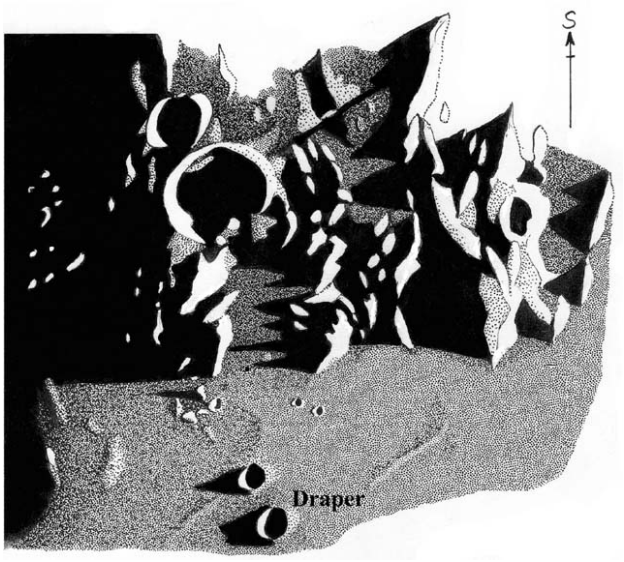


POSIDONIUS-MARE SERENITATIS – William Dembowski, Windber, Pennsylvania, USA. September 15, 2010 00:02 UT Colongitude 349.7º, Seeing 3/10. Celestron 9.25" SCT f/10, DMK41 UV/IR filter.



GAMBART-Howard Eskildsen-Ocala, Florida, USA. October 1, 2010 09:58 UT. Seeing 8/10, Transparency 5/6. 6" f/8 Explore Scientific refractor, 2x barlow, DMK 41AU02 AS, W-8 Yellow filter.

RECENT TOPOGRAPHICAL OBSERVATIONS



MONTES CARPATUS & GAY LUSSAC - Phillip Morgan –Lower Harthall-Tenbury Wells, Worcestershire, England. October 2, 2010 03:30-04:10 UT. Seeing 5/10, Transparency 2-3/5. Colongitude 198.5º-198.9º. 305mm, f/5, Newtonian, 400x.

Sometimes whilst studying the moon I am confronted with a little gem of a region that draws me in and makes me want to step out onto the lunar surface and have a walk around. This was one of those occasions, and I felt compelled to try and reproduce on paper what I was seeing for others to share and enjoy, It's moments like these when all thoughts of scientific research or discovering something new or interesting are completely forgotten and you remember just what it was that attracted you to looking at the Moon in the first place. A moment of peace and calm when you can quietly stop and reflect on the sheer majesty and grandeur of the vista that confronts you. I could almost feel those lofty lunar peaks reaching out to me as they caught the last few rays of a lunar day. My drawing has no scientific value, and I don't care "not everything of value to us has to be new or different" sometimes just a little memento of a special moment is more than enough!

Ed. Note: This also appeared in the October 9, 2010 LPOD.

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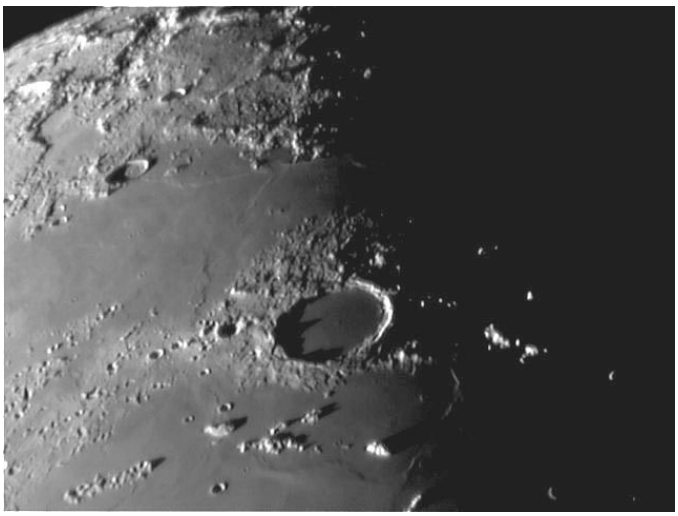
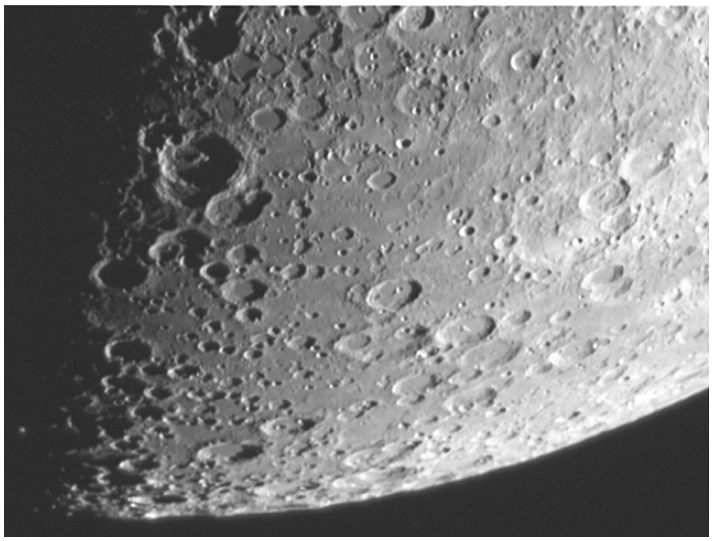
ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

TYCHO-Maurice Collins - Palmerston North, New Zealand. October 18, 2010 08:03 UT. C8, 2x barlow, LPI.

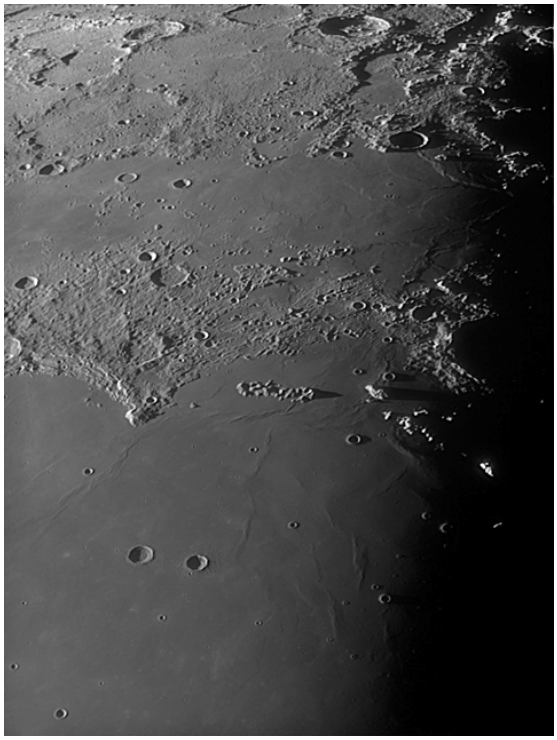
ADDITIONAL TOPOGRAPHICAL OBSERVATIONS



PLATO – Ed Crandall – Lewisville, North Carolina, USA. September 1, 2010 09:25 UT. Seeing AIII. Colongitude 183.2º. 110 mm f/6.5 APO, 3x barlow, ToUcam.



SOUTH POLAR REGION – William Dembowski, Windber, Pennsylvania, USA. September 14, 2010 00:05 UT Colongitude 349.8º, Seeing 3/10. Celestron 9.25" SCT f/10, DMK41 UV/IR filter.

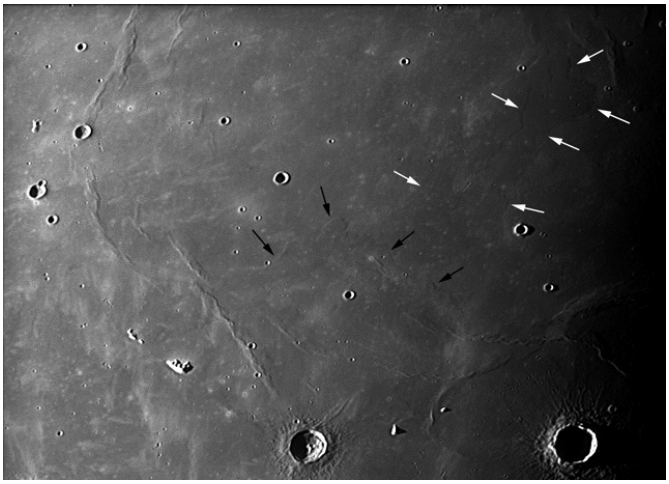


MONTES RECTI - Howard Eskildsen-Ocala, Florida, USA. October 1, 2010 10:02 UT. Seeing 8/10, Transparency 5/6. 6" f/8 Explore Scientific refractor, 2x barlow, DMK 41AU02 .AS, W-8 Yellow filter.

ADDITIONAL TOPOGRAPHICAL OBSERVATIONS

MARE IMBRIUM FLOWS - Howard Eskildsen-Ocala, Florida, USA. October 1, 2010 10:00 UT. Seeing 8/10, Transparency 5/6. 6" f/8 Explore Scientific refractor, 2x barlow, DMK 41AU02 .AS, W-8 Yellow filter.

I got this image earlier in the month and wonder if the Imbrium flows extend further than usually visible under rising sun illumination. On the marked image, dark arrows show the flows that I am familiar with. The white arrows point to regions that seem to be extensions of earlier flows. Real? Illusion? Something else?



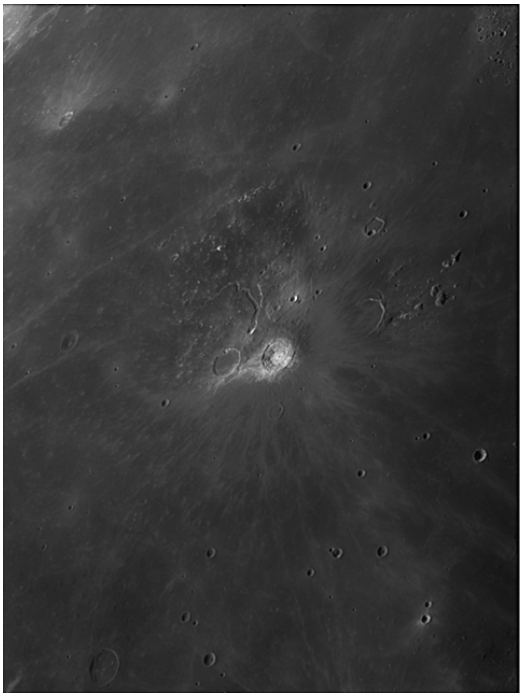
BRIGHT LUNAR RAYS PROJECT

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



ARISTARCHUS-Howard Eskildsen-Ocala, Florida, USA. October 1, 2010 10:16 UT. Seeing 8/10, Transparency 5/6. 6" f/8 refractor, 2x barlow, DMK 41AU02 AS, W-8 Yellow filter.

BANDED CRATERS PROGRAM

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

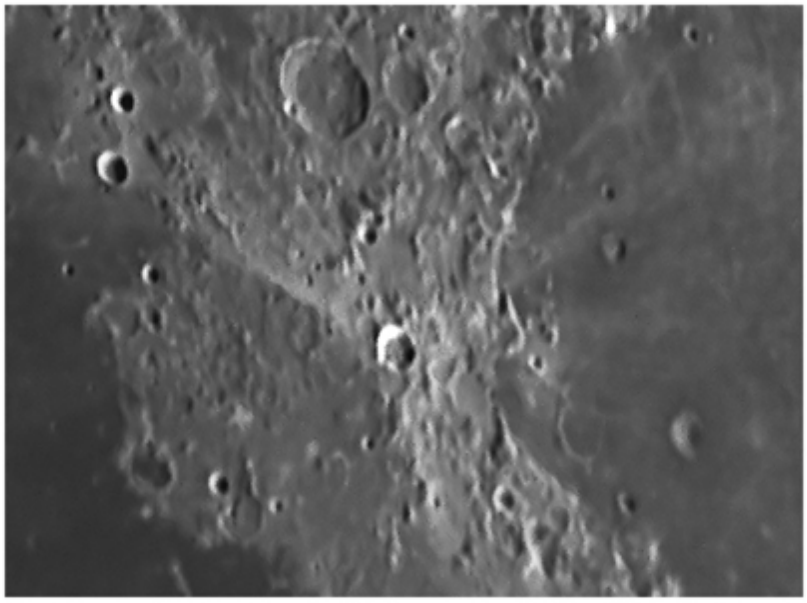
Assistant Coordinator – William Dembowski - dembowski@zone-vx.com

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

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

Crater Observed: Proclus
Observer: William M. Dembowski Observing Station: Elton Moonshine Observatory
Mailing Address: 219 Old Bedford Pike, Windber, PA 15963
Telescope: Celestron SCT 2.35 cm f/10
Imaging: ImagingSource DMK41 Filters: UV/IR
Seeing: 3/10 Transparency: 3/6
Date (UT): 2010/09/15 Time (UT): 00:08
Colongitude: 349.8

Image: (North up) (East right)



LUNAR TRANSIENT PHENOMENA

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

LTP NEWSLETTER – NOVEMBER, 2010

Dr. Anthony Cook - Coordinator

Observations for September 2010 were received from the following observers: Jay Albert (Lakeworth, FL, USA) observed Aristarchus, Bullialdus, Eratosthenes, Gassendi, Pallas, Plato, Theophilus, Timocharis, Torricelli B, Schroter's Valley, and several other features, Maurice Collins (New Zealand) observed Agrippa, Gassendi, and took whole Moon images, Marie Cook (Mundesley, UK) observed Aristarchus and Gassendi, myself (Aberystwyth University Robotic Telescopes) observed Earthshine and took time lapse video of the Moon in various spectral wavebands, and Brendan Shaw (UK) imaged Torricelli B. Finally, Trevor Smith (Codnor, UK), answered my call for more routine observations of Helicon, by submitting a sketch that he made in May.

Routine Reports: On 2010 Sep 20 between 01:10 and 02:35UT, Jay Albert checked the appearance of the floor of Bullialdus crater. This matched the same illumination to within +/-0.5° to Findlay's TLP from 1974 Sep 27 where yellow-orange color was seen and Gray's observation from 2006 Dec 02 when yellow was seen. Jay observed with a C11, and although sky conditions were partly cloudy, with fast moving cumulus cloud from the NNE, he was able to see clearly through the gaps. Transparency was 3 and seeing varied from 3/10 (when clouds present) to 5/10 (when clouds were far away). The whole Moon had a yellow cast initially but this had gone by 01:37UT. On no occasion though did Jay see any unusual color on the floor of Bullialdus. This is at odds with the current explanation for the two TLPs, namely natural surface color. However perhaps the atmospheric transparency reduced color sensitivity on this occasion?

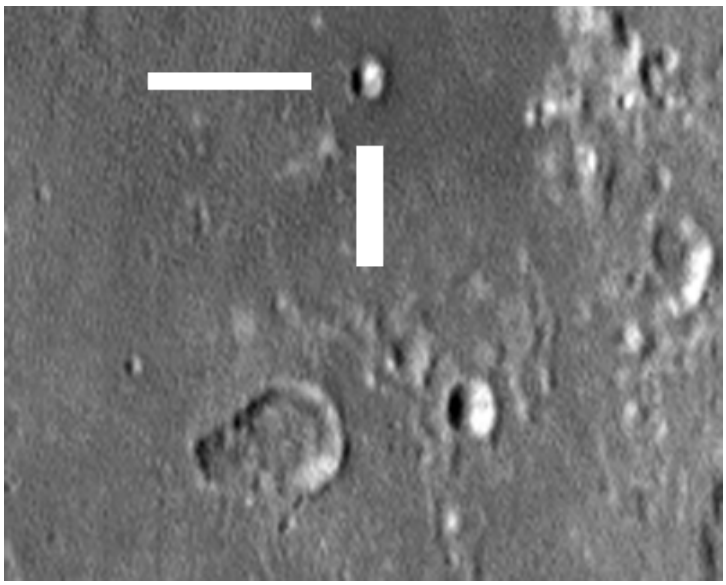


Figure 1. Torricelli B at intersection of rectangles. North is at the top, west is to the right, east is to the left. This image by Brendan Shaw, has been sharpened and contrast enhanced.

On 2010 Sep 26 at UT 01:51 Brendan Shaw obtained a CCD image of Torricelli B and surrounds. This was about an hour before the identical (+/-1° tolerance) illumination and libration conditions to a reputed video TLP report from Martin Mobberley from 1985 Dec 29. The Cameron 2008 catalog states that, according to Peter Foley, who examined the tape, a brilliant point appeared briefly on the western rim at 23:23UT at a 3 o'clock position and again at 23:58UT. In the second appearance the point apparently was there continuously, but wandered around the rim. Checks were made by Foley to see if the wander was due to turbulence by comparing with other features, but it was deduced that this was not the case. I contacted Martin Mobberley and he says that he gave VHS the tape to Peter Foley, who then handed it over to the University of Kent for examination. Alas Martin did not get the tape back, and he has some doubts over whether the subsequent videotape observation interpretation was correct. However the bright point was definitely not visible the next night according to accounts from that time. I have asked a lecturer from the University of Kent whether they still have the tape, but they say they do not, but suggested that I contact the Open University as some of the research group transferred universities many years ago. I will let you know if I manage to track down this tape. Whatever was going on in 1985, we do at least now have Brendan Shaw's image below, and this does not show any bright spot on the western rim, though there is the usual bright spot on the northeast.

LTP Reports: No LTP reports were received for September 2010.

Europlanet Lunar Impact Flash Workshop - Berlin: Although this is in the remit of Brian Cudnik's impact flash observing group within ALPO, I just thought that I would mention that I was fortunate to be invited to a workshop in Berlin at the end of October. Here were gathered scientists from NASA's Marshall Space |Flight Center, France's proposed Lunette mission, Spain, Germany's DLR Institute for Planetary Exploration, the Netherlands, Greece and the UK. It seems that there has been a resurgence of interest in impact flashes on the night side of the Moon, in order to determine some key questions, such as what temperatures do meteorite impacts reach on the lunar surface (two waveband imaging would help to resolve this), can we confirm that the proportion of light emitted of the total kinetic energy agrees with theoretical models, how realistic are Earth-based hypervelocity gas guns at simulating flashes, and how do theoretical impact rates compare with observed rates. Of inertest to us is that France has set up the International Impact Monitoring Network, to support the Lunette mission (assuming this gets selected by NASA) and has given dedicated telescopes to observatories in various parts of the world in an effort to provide 24 hour coverage of Earthshine. Spain also, like NASA Marshall, is setting up telescopes to observe Earthshine. Much discussion took place on observing impact flashes from lunar orbit and correlating impact flashes with seismographs from future proposed landers. So the future for impact flash observing looks promising and I have passed the International Impact Monitoring Network details onto Brian Cudnik, the ALPO impact flash coordinator. Incidentally, if you would like to take part in impact flash observing for ALPO, then contact Brian Cudnik (cudnik@sbcglobal.net)– according to delegates at the conference impact flashes can be seen on average one per every few hours down to magnitude 9-10. The best camera to use is the Watec 902H. A wonderful manual for impact flash studies is Brian Cudnik's "Lunar Meteoroid Impacts and How to Observe Them", published by Springer, and available in paper back.

Observing Schedule: 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 . 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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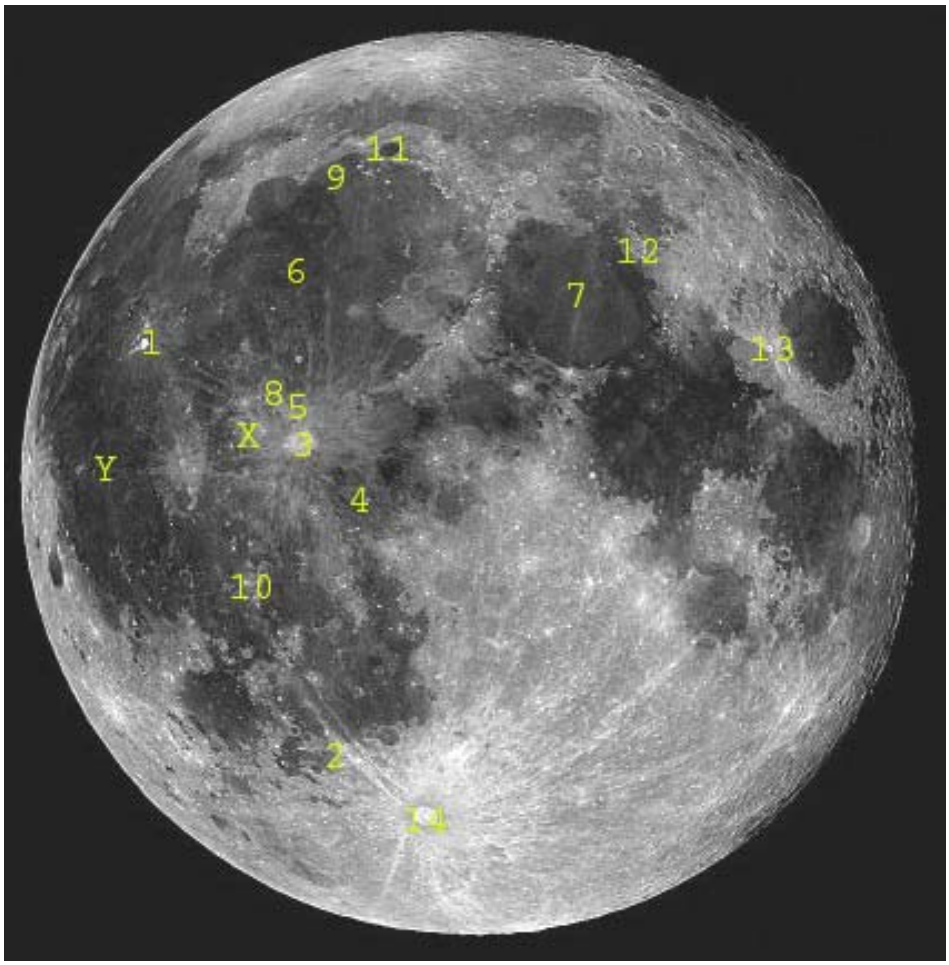
KEY TO IMAGES IN THIS ISSUE

1. **Aristarchus**
2. **Cichus**
3. **Copernicus**
4. **Gambart**
5. **Gay Lussac**
6. **Mare Imbrium**
7. **Mare Serenitatis**
8. **Montes Carpatus**
9. **Montes Recti**
10. **Montes Riphaeus**
11. **Plato**
12. **Posidonius**
13. **Proclus**
14. **Tycho**
15.



FOCUS ON targets

X = Milichius-T. Mayer Area (November)
Y = Marius-Reiner gamma (January)