

AN INDEPENDENT NEWSLETTER FOR STUDENTS OF THE MOON ... JULY 2003 EDITED BY: William M. Dembowski, FRAS - Elton Moonshine Observatory 219 Old Bedford Pike (Elton) - Windber, PA 15963 - <u>DEMBOWSKI@ADELPHIA.NET</u>

FEATURE OF THE MONTH



DEMOCRITUS – (62.3°N – 35.0°E) Sketch by Robert H. Hays, Jr. – Worth, Illinois, USA December 11-12, 2002 – 15cm Newtonian – 170x – Seeing 7-8/10

I drew this crater and vicinity on the evening of December 11-12, 2002 after the occultation of a faint star. This crater is located near the northeast edge of Mare Frigoris and had favorable lunar libration that evening. It is somewhat lozenge-shaped, possibly from a merger with the ghost ring Decocritis M as shown on the Lunar Quadrant Map. This crater has a modest peak south of center and a ridge cutting across the northern part at an angle. There is a noticeable point on the eastern rim. Democritus A is the large crater southwest of Democritus, while small pits were noted west and north of Democritus. There were also some nearby ill-defined hills and a v-shaped wrinkle passing south of Democritus and between that crater and Decocritus A.

Editor:

Democritus is approximately 40km (25 miles) in diameter and was named for a Greek philosopher (460-370 BC). Democritus championed the "atomic theory", believing that matter could not be divided *ad infinitum*. The area of Robert's sketch can be found on Map 5 of Rukl's Atlas of the Moon.

OBSERVATIONS RECEIVED

MICHAEL AMATO - WEST HAVEN, CONNECTICUT, USA Ray Maps of Kepler, Aristarchus, Menelaus

ED CRANDALL - WINSTON-SALEM, NORTH CAROLINA, USA CCD Southeast Region, Hortensius Domes & Copernicus, Hortensius Domes

DAVID O. DARLING – SUN PRAIRIE, WISCONSIN, USA Video Stills of lunar eclipse (2)

DANIEL DEL VALLE - AGUADILLA, PUERTO RICO CCD Images of Gemma Frisius, Rima Ariadaeus, Maginus Sunrise Ray, Copernicus, Kepler Rays, Marius, Mersenius, Schiller

COLIN EBDON - COLCHESTER, ESSEX, ENGLAND Sketches of Sirsalis to Damoiseau, Hippalus Rille System

WILLIAM ELSBURY – MASON CITY, IOWA, USA Video Still of Copernicus, Mare Fecunditatis, Aristillus & Mare Imbrium, Mare Nubium, Konig & Bullialdus, Konig, Menelaus, Proclus, Clavius

JACK KRAMER – LIBERTYVILLE, ILLINOIS, USA CCD Image of Hercules & Atlas & Atlas Companion

JOSEPH H.C. LIU - SALINAS, CALIFORNIA, USA

CCD Images of Wargentin & environs, Gould & Crater Chain, Prinz & Alphonsus Plateau, Eatosthenes, Kies & environs, Mersenius & Western Shore of Mare Humorum, Domes near Milichius & Hortensius, Bailly, Crater & Rima Marius, Damoiseau & Rima Sirsalis

DAVID MITSKY – HARRISBURG, PENNSYLVANIA, USA Photograph of Maginus Sunrise Ray

K. C. PAU – HONG KONG, CHINA Video Stills of Cassini, Alpine Valley (Sunset), Schiller, Plato, Rimae Hippalus, Torricelli, Copernicus

GUIDO SANTACANA – SAN JUAN, PUERTO RICO Sketches of Birt & environs, Kies, Cassini, Sinus Iridum

ALEXANDER VANDENBOHEDE – GENT, BELGIUM Sketches of Rumker (7) CCD Images of Rumker (4), Mare Nectaris, Taruntius, Petavius, Mare Fecunditatis (2) CCD Images of Solar Eclipse (14)

RODRIGO VIEGAS – MONTEVIDEO, URUGUAY Sketches of Archimedes, Capella, Fracastorius (2), Plato, Lacus Mortis

ROBERT WLODARCZYK - CZESTOCHOWA, POLAND Sketches of Area Between Arzachel-Alphonsus-Parrot, Herschel & environs Just as deep sky observers look for interesting objects between the stars, lunar observers can find many treasures BETWEEN THE CRATERS



AREA NEAR ARAGO Video Still by K.C. Pau – Hong Kong, China May 7, 2003 – 212mm Cass. Newt. – Philips TouCam Pro

This month's subject was suggested by K.C. Pau who also submitted the above image. When the western shore of Mare Tranquilitatis is near the terminator the region is a treasure house of lunar features. Near the center of the image is a system of wrinkle ridges that outline Lamont, a sunken crater. Follow these ridges as they radiate southwest to Ritter and Sabine, and north to the vicinity of Ross. Note the change in tone of the mare material as it extends to the northeast from Lamont. Such albedo differences can sometimes be better seen with low to moderate magnification, so you may find a filter helpful for reducing the glare

The crater Arago, just to the northwest of Lamont, lends its name to two of the finest domes on the Moon. Easily seen with a small telescope, alpha is north and slightly east of its namesake, while beta lies nearly due west. Both are topped by summit craterlets but you will need more than a small telescope to see them. The white box north of alpha marks the location of a cluster of four more domes not readily seen in this reproduction of K.C.'s image.

Running along the entire western and southern shores of Tranquilitatis is a series of acuate rilles, probably caused by the collapse of solidified mare lavas. Those best seen in the above image are the rilles just below Sabine. It was this lava collapse, incidentally, which also created the circular wrinkle ridges of Lamont.

Finally, crank up your imagination and check out the area indicated by the X; it marks the approximate landing site of Apollo 11, the first manned flight to the Moon.

SUNRISE/SUNSET RAYS

Sunrise/sunset rays are narrow shafts of light that shine through chance openings in crater walls when the sun is very low on the lunar horizon. To catch a ray you must be looking in the right place at the right time. Perhaps the best website to help you do that is the one maintained by Rob Robinson of Bonner Springs, Kansas. Check it out at <u>http://www.lunar-occultations.com/rlo/rays/rays.htm</u> Meanwhile, here are two images of the Maginus Ray submitted by TLO readers:



MAGINUS SUNRISE RAY CCD Image by Daniel del Valle – Aguadilla, Puerto Rico June 7, 2003 – 23:42 UT - 8 inch SCT – Logitech QuickCam



MAGINUS SUNRISE RAY Photograph by David Mitsky – Harrisburg, Pennsylvania, USA May 20, 2002 – 02:30 UT – 17 inch Classical Cassegrain

LUNAR CALENDAR - JULY 2003 (UT)

- 01 . . . 01:00 . . . Moon 2.5 Degrees S of the star Pollux
- 07 . . . 02:32 . . . First Quarter
- 10 . . . 22:00 . . . Moon at Perigee (226,890 miles 365,134 km)
- $13\ldots 19{:}20\ldots$ Full Moon
- 15 . . . 08:00 . . . Moon 4.9 Degrees SSE of Neptune
- 17...08:00... Moon 0.4 Degrees WNW of Mars
- 21 . . . 07:02 . . . Last Quarter
- 22...20:00... Moon at Apogee (251,238 miles 404,317 km)
- 24 . . . 24:00 . . . Moon 4.0 Degrees N of Saturn
- 29....06:52....New Moon (Start of Lunation 997)

TOPOGRAPHICAL STUDIES



HERCULES, ATLAS, & ATLAS COMPANION CCD Image by Jack Kramer – Libertyville, Illinois, USA June 27, 2001 – 4 inch Refractor – Afocal with Sony S70

TOPOGRAPHICAL STUDIES



CLAVIUS Video Still by William Elsbury – Mason City, Iowa, USA June 10, 2003 – 12.5 inch Cassegrain Reflector – Astrovid 2000



KIES Sketch by Guido Santacana - San Juan, Puerto Rico May 25, 1999 – 01:37 UT – 8 inch SCT – 444x