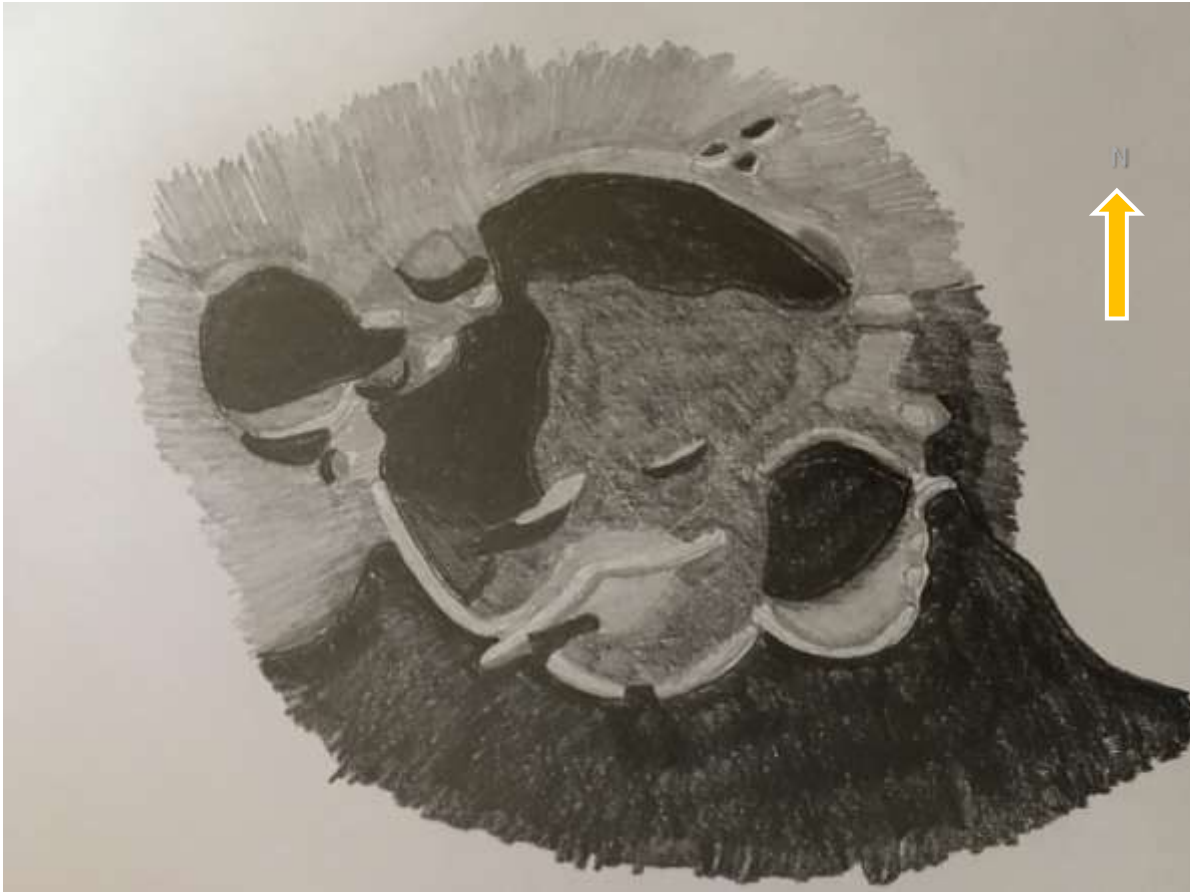


ALPO LUNAR PROGRAM

CRATER ALBAGETNIUS OBSERVATION



<i>Observer</i>	Enrique C. Madrona
<i>Location</i>	Mentor, OH, US
<i>Address</i>	xxxxxxx., Mentor, OH, 44060 (41.6662° N, 81.3396° W)
<i>UD</i>	July 31st, 2017
<i>UT</i>	00:32
<i>Seeing</i>	7 - Good seeing conditions. Main problem was intense over illumination by the moon saturating the cameras - some clouds interfering at times
<i>Transparency</i>	Moon is main target. At observation time, still in daylight, transparency is around 4. Conditions are good but some haze is present
<i>CM</i>	N/A
<i>Telescope</i>	Meade Star Navigator 4.5" (114mm) 1000 Focal Length - Ratio 8.7
<i>Filters</i>	None
<i>Magnification</i>	166.4X



OBJECT	Crater Albatengius
Coordinates	11.2°S 4.1°E
Diameter	129 Km
Depth	4.4 Km

Temperature	72 F 22.2 C Deg
Dew Point	66 F / 18.9 C
Wind Speed	3 Knots / 6 Km
Wind Direction	240 Deg
Humidity	82 %
Pressure	30.14 in
Visibility	10.00 m / 16.1 Km

Sun Altitude	+55:27 Deg
Sun Azimuth	123:19 Deg

JD	2457965.5222
Sun RA	8.696 h
Sun DEC	18.26 Deg
Moon RA	14.765 h
Moon DEC	-10.61 Deg
Libration LON	4.6 Deg
Libration LAT	-6.7 Deg
Sun Colongitude	359.79 Deg
Selenog. Colongitude	0.2 Deg
Disc Illumination	0.539 Deg
Angle of Bright Limb	287.8 Deg
Angle of Polar Axis	17.8 Deg

Observation Notes

Background

Like Theophilus from my prior observation, Albategnius is an ancient crater. It is bordered at the north by Hipparchus and to the west by the impressive Ptolomaeus and Alphonsus. Albategnius is terraced and has a basin depth of 4 km with a central peak 1.5 km high. It extends 129 km in diameter. It was originally sketched by Galileo in 1610. There are numerous satellite craters spread all around and even inside and on the rim walls.

Observation

Drawing is rotated. North is directly up.

For simplicity and convenience, I used my 4.5" Star Navigator telescope for this observation. I started out at 166 magnification and ended up at 330X plus. Due to seeing conditions the larger magnification proved very difficult to manage so I completed the observation at 166X. This revealed less details but much more clearly. The total time spent was close to 30 min and this included time to draw an outline and an intensity map of the formation. I took some basic afocal pictures to accompany my drawing.

Albategnius is a very interesting crater and though I originally planned to study Hipparchus, I settled for the former because of the interesting line up of smaller craters around it and its rim shape which has held together much better than the latter, despite spills, bombardment and erosion.

Crater Klein, pictured directly south, is embedded in the southern rim and crater Albategnius B is embedded inside the northern rim but at the time of observation it was in darkness. There are a number of other smaller craters in the basin. What appears to be a prominent rille crossing the western wall is actually a partly collapsed section of the western rim together with a rima. Various boulders line up the eastern wall and the central peak is clearly visible even at low magnification. I was not able to entirely discern the morphology of the central peak as clearly as with Theophilus but looking at closer pictures from LRO, the 1500m mound appears to be a solid massif with a prominence to the north east.

The surface of the crater's basin is homogenous but in my drawing, you can see that the illumination coming from the east has shaded the basin in at least two different grays and a black shadow. This turns out to be simply shading from light incidence from the eastern wall and not different physical properties of the ground itself.

Outside the northern rim lies crater Halley, pictured above. It is mostly in shadow with some visible terraces at its western edge. Two of the Vogel craters are visible directly east as well as Argelände although I did not draw these. I did draw three smaller craters above them on the eastern wall for completeness.

This crater has some amazing features. One could spend hours on it from its ruggedized walls to its smooth floor, its central peak relief, plenty of smaller, embedded craters and of course its surroundings are populated by other very prominent craters. The entire region is a gold mine for ancient impact craters some of which like Alphonsus are a geographic reference on the moon.

As I learn to hand-draw features, I feel satisfied that this drawing is significantly better than the one I did of Theophilus. Perhaps I will redraw the latter when I become more competent with the technique.