11 September 2016, Telementor

Three Domes Near Lansberg D

Telescope: **Telementor C63/840**
Eyepieces:
O-9 - Zeiss Vintage Ortho, f=9mm, (93×, 27′)
O-7 - Zeiss Vintage Ortho, f=7mm, (120×, 21′)
A-6 - Zeiss Abbe Ortho, f=6mm, (140×, 20′)

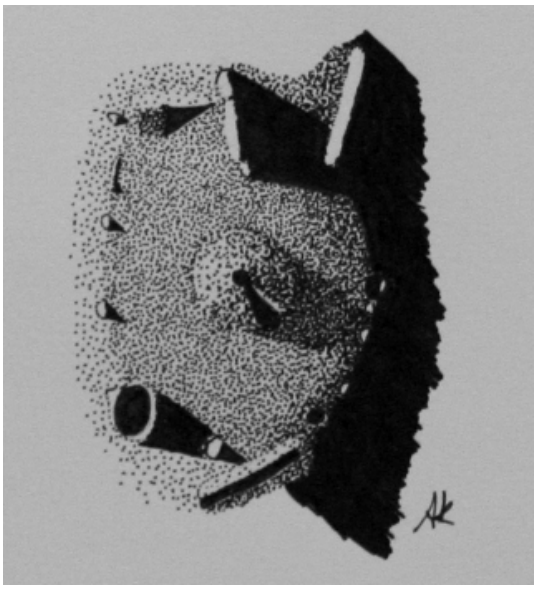
Time: 2016/09/08 18:30-19:30UT
Location: Říčany
Weather: Clear sky with medium haze
Seeing: Very good, Ant. II
Mount: Zeiss T1
Accessories: Baader/Zeiss T2 prism

This was just one hour long Moon session. The plan was to pick up some interesting feature and sketch it as I did not sketch the Moon since March. I'm quite ignorant what concerns the Moon, my main focus is observing planets and deep sky objects. During the time, I learnt to appreciate also our neighbor. I like to discover what is there, rimae, domes, interesting craters, etc. There is always plenty of new features, at least for a person not familiar with Moon as me.

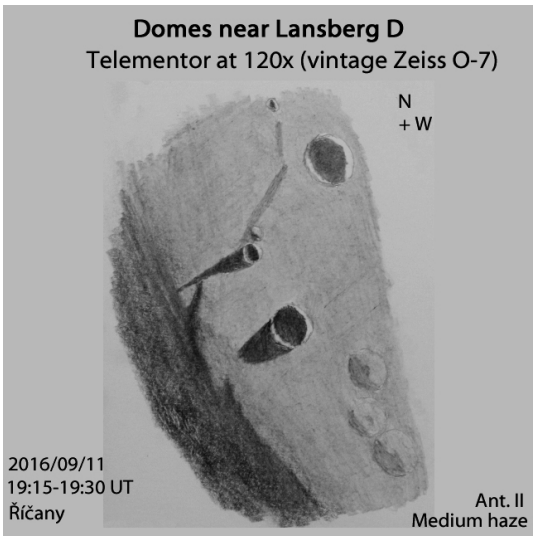
Terminator was close the Millichius and Hortensius region with many domes. Four years ago I noticed large dome close to Millichius crater with radial dark line feature. It got a nickname **Keyhole dome** on Cloudy Nights, see the sketch.

This night, there was again favorable side light and the Keyhole dome was nicely visible at 120× and 140× including the dark line and wider darker central caldera region. I have noticed as well the Millichius π dome and several other domes in the area.

Then I played with eyepieces to figure out what magnification is the best for the night. I was trying to figure our if I like more the ZAO-I 6mm (140×) or vintage Zeiss 7mm ortho (120×). Both eyepieces were sharp and both were providing excellent contrast in the 63mm refractor. At the end I stepped down from 140× to 120×. To my eye, the hard to detect features, like long chain of small craterlets near Copernicus or thin Rime Hesodius I, were more easily seen in the vintage ortho. I have also noticed that the image seemed less bright in the 7mm eyepiece than in 6mm ZAO-I despite smaller magnification. Lack of coatings in this around hundred years old eyepiece was probably responsible for the darker image. This lack was also probably responsible for on-axis reflections visible when I put the



Sketch of Keyhole dome from 2012/09/25 18:50-19:20UT through Zeiss AS80/1200 at 170× (TMB mono 7mm). Strong haze, seeing Ant. IV.



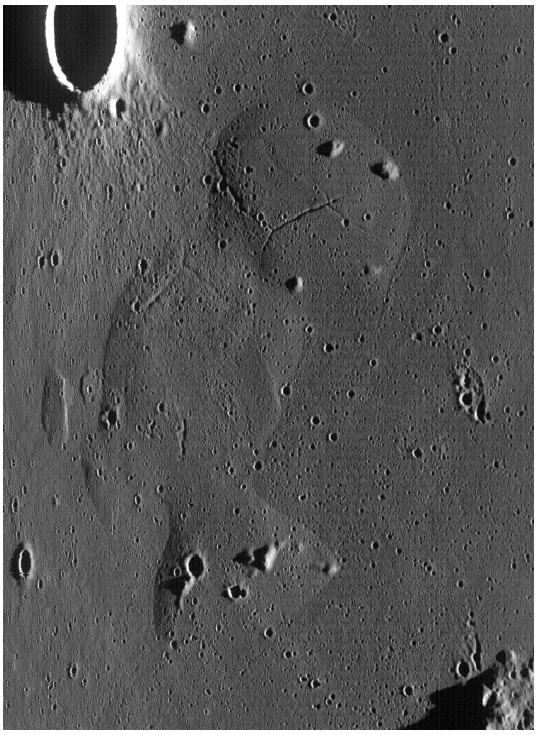
Moon at the edge of field of view.

For a fun, I plugged in another vintage Zeiss ortho, this time 9mm. Again it was quite sharp but the provided magnification of 93× was too low and I switched back to 7mm ortho.

I decided to try to locate another dome I remembered observing in the past, a dome near crater Lansberg D. To my surprise, there was not one dome but three of them! This was calling for making a sketch for later identification, see the rough result on top of this page made directly at the eyepiece.

At home, I looked into the Rükl's Moon atlas. However, there was only one dome plotted and mentioned in the text. There was one clear dome and a hint of a second one on the 1962 topographic map made by United States Air Force and accessible through Google Moon. The geologic Marshall's map, accessible from the same www location, was showing that the whole area in the place of sketched three domes was made out of dome material.

I though, ok, the other two domes I saw were probably some hills that looked just like a fake domes. But then I run on M. Wirths and R. Lena proceeding from 45th Lunar and Planetary Science Conference in 2014 with a title *Lunar domes near Lansberg D: Morphometry and mode of formation*.There are indeed three domes, two of them, La1 and La3, are slightly above 100 meters high. The middle one, La2, is



LRO WAC image M116507209ME.

smaller, only 70 meters high. It is also more bulky and flat on top. The authors came in the paper to the conclusion that the three domes were formed by a magmatic intrusion.

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