

Observing Report for June 21 & 22, 2019

by Joe Stieber

Weekend observing commenced on **Friday, June 21**. It was clear all day, so I went out locally, to **Swede Run** in Moorestown, NJ, after sunset to spot Mercury and Mars. Alas, when I arrived about 9:10 pm EDT, there were clouds along the western horizon towards the planetary pair. Luckily, I spotted them with 15x56 binoculars at 9:15 pm through a gap in the clouds and then was able to see them intermittently for a couple of minutes as the shifting clouds permitted. Mercury was magnitude +0.44, 43% illuminated, and 1.8° from magnitude +1.8 Mars.

I was hoping the clouds would move out, but they didn't, and by time I left at 9:50 pm, the entire sky was cloudy. I did manage to spot Castor and Pollux, which were not far from Mercury and Mars, at 9:30 pm with the 15x56s through another gap in the clouds.

I had also hoped for the remote possibility of spotting noctilucent clouds, which have been reported in abundance recently at Spaceweather.com, but primarily from far more northern latitudes. I specifically looked for them along the northern horizon but saw none before the conventional clouds blocked the view.

On **Saturday, June 22**, there was some varying cloudiness during the day, but these clouds never swayed me from going at **Atsion** in Wharton State Forest, NJ, where it turned out to be quite clear by sunset. After some distractions from activity on the field, I finally looked for Mercury and Mars, picking up the former at 9:30 pm in the 15x56s, then I saw it immediately with unaided eyes. Mars was 2.2° from Mercury at the 4 o'clock position, and they were easily in the same 4.5° binocular field of view. Looking carefully, I was able to glimpse Mars not far above the treetops with unaided eyes. Mercury was magnitude +0.51, Mars was still at +1.8.

Mercury was technically a crescent, 41% illuminated, but it was just star-like in the 15x56s. Hopefully, I can get a scope on it in the next week or two and view the shrinking crescent, but based on past experience with this low-altitude object after sunset, seeing is usually poor, so more often than not, the crescent tends to look like a bloated, wriggling banana.

Again, I saw Castor and Pollux near the planetary pair in the 15x56s, 5 to 10° above-right of Mars, and I was also able to glimpse them with unaided eyes in the mid-twilight sky (sunset was at 8:31 pm, astronomical twilight ended at 10:33 pm).

I didn't look as ardently for noctilucent clouds at Atsion as I did the evening before. Besides the usual distractions of the observing session, there's significant light pollution to the northwest (from Philadelphia and the intervening suburbs) where the tree line is relatively low. Towards the north into the northeast, it's darker, but the tree line is higher. In any case, I was not able to spot any NLCs.

For Saturday night, moonrise was at 12:19 am on Sunday morning, so there was 1 hr 46 min of a fully-dark sky between the end of astronomical twilight and moonrise, although useful observing still could be conducted before and after that window of full darkness.

Despite my intention to methodically spot a large number of deep-sky objects with my 15x56s during the couple of hours from the late throes of twilight up until moonrise, to try and better the tally of 39 deep-sky objects spotted at the previous Atsion outing, largely during the one-hour period centered on midnight June 3-4, I ended up observing casually while relaxing in my chair and also occasionally peeking through some of the scopes that others had set up.

In the scopes, I saw Jupiter of course, and with it, the Great Red Spot, which transited the central meridian around 9:30 pm. Seeing was average at best, and being in Ophiuchus at about -22° declination, Jupiter doesn't get very high in the sky for us at a nominal 40°N , which takes its toll. Nevertheless, the GRS was indeed visible, even if the view wasn't ideal. Saturn rose later and was even lower, but despite the low altitude, the rings were plainly visible and I suspect I saw the Cassini Division and there seemed to be a darkish belt on the ball (hopefully, my brain wasn't taking liberties with my perception of the details).

The fifth solar system object observed was (1) Ceres, the asteroid (or minor planet or dwarf planet as you prefer). It was in Libra, just west of the Scorpius border and a couple of degrees above Graffias (Beta Sco) at the top of the three-star row marking the scorpion's head. At magnitude 7.6, it was an easy target for the 15x56s. I had a printout from SkyTools to establish its position with respect to the nearby stars.

I also looked at another of my favorites, Barnard's Star, the star with the highest-known proper motion (10.3 arc seconds per year). At magnitude 9.6, it's a bit more challenging in the binoculars, so it was best seen towards midnight when it was high in the sky. While in that neck of the woods, I also picked up IC 4665, an open cluster in Ophiuchus. On a really good night (not this night), IC 4665 is visible with unaided eyes, unusual for an IC object. As Wikipedia says, "It is one of the brightest clusters not to be cataloged by Charles Messier or William Herschel."

By midnight, when it too was higher in the sky, the Milky Way passing through the Summer Triangle was obvious, but it was not "billowing" as it ran down to Sagittarius. Within the Summer Triangle, as viewed in the 15x56s, I saw M29, M57, M56, Albireo (split, with color), M27, M71 and Collinder 399 (the Coathanger, a pseudo-cluster, which was also visible with unaided eyes). NB: I could not see NGC 6802, a true open cluster ($m_v = 11.7$) at the eastern end of the Coathanger asterism, with the binoculars.

I thought I could vaguely see Barnard's "E" southwest of Altair and Tarazed, and vaguely see the North America Nebula below Deneb (guided by the plainly-visible mini-Orion off the Gulf of Mexico). Just outside of the Summer Triangle, I saw M39 and near it, the dark nebula, Barnard 168, was vaguely seen. On a fine night, B 168 looks like a "big black cigar" in binoculars.

Heading towards Sagittarius along the galactic equator, I picked up the well-known "C" asterism with unaided eyes. It's mostly in Aquilla, but the lower arm extends across the border into Scutum and points to M11, the Wild Duck Cluster. In the 15x56s, I could make out M11's wedge-like shape, the source of its name since it's supposed to resemble a flock of airborne

waterfowl. Before the extended bottom of the "C" crosses the border, a row of fainter stars curves east from 12 Aql and terminates at the distinctly red carbon star, V Aql (the color was visible in the 15x56s).

Sweeping southwest down Scutum with the 15x56s, I spotted M26, then further down, M16 (the Eagle Nebula) and M17 (the Omega Nebula) were prominent. I could even begin to see then upside-down swan shape (the rotund body with a hook-like neck and head) of M17. Not much farther, M24, the Sagittarius Star Cloud, filled much of the binocular field with a splatter of "sparkling" stars.

By time one gets to this part of the sky, from Scutum down into Sagittarius and Scorpius, there are almost too many objects visible in binoculars to enumerate without taking a lot of notes. I confess that I was just enjoying some lazy, casual observing with binoculars and unaided eyes, so I wasn't taking notes, let alone detailed notes, as I originally planned. However, there a few more objects seen in the 15x56s that should be mentioned (without too much elaboration).

I saw the Globular clusters M10 and M12 in Ophiuchus, M22 and M28 in Sagittarius, and M4 and M80 Scorpius. In Sagittarius, I saw the diffuse nebulae, with embedded clusters, M8, the Lagoon Nebula (also visible with unaided eyes thanks to the brightish cluster) and M20, the Trifid Nebula. The open clusters M21 (near M20) in Sagittarius and off the tail of Scorpius, M6, the Butterfly Cluster, and M7, Ptolemy's Cluster, were seen in the 15x56s. M7 is sometimes visible with unaided eyes, but low altitude combined with some low light pollution glow from Hammonton precluded it this time.