

Several times during the last month or two I have looked at one of my favorite parts of the sky, the heart of the great Virgo Galaxy cluster. When I approach the area by star hopping, I generally start at rho Virginis, work north to M60 and M59, then west to M58, M87, and finally M86 and M84, at the center of the cluster. I take that route as much from habit as for any other reason, because for a long time it was the only way I could ever find anything in this star-poor region of the heavens.

The two great galaxies, M86 and M84, are in the richest part of the cluster, and a larger instrument shows many more nearby. My white Celestron 14, Harvey, shows all the galaxies here that are plotted on `_Millennium_Star_Atlas_`, and more besides, when observing with either of my two favorite magnifications for galaxy work with it; namely 244x (16 mm Brandon) and 98x (40 mm Vernonscope Erfle). NGC 4388, which is at the south point of an equilateral triangle whose other two points are M86 and M84, easily shows as well elongated, and fainter NGC 4387, in the middle of the triangle, is also obvious. I often use this quartet of galaxies to check on seeing, transparency, and instrument capability, or to show the variation in galactic size, shape, and brightness to newcomers. I have even seen all four in my 55 mm Vixen fluorite refractor, Refractor Red, in excellent sky conditions, at 37x (12 mm Brandon). My 90 mm Vixen fluorite gives a nice view at 68x (the same 12 mm Brandon), and a three-inch f/10 Newtonian -- I have one of Stargazer Steve's Sgr-3s -- shows all four galaxies as well, using the 17 mm generic Plossl eyepiece that came with it.

This group of galaxies gives one a sense of the vastness of the universe, for if there are two bright ones, and one fainter, and one fainter still, surely there must be more, beyond the limits of visibility of my equipment. There are -- a local CCD imager recently took a deep image of this area with his 5-inch Takahashi fluorite, and recorded scores of galaxies to blue magnitude 20 and beyond! I'll have to take a copy of his work into the field, to see what more I can locate. I rather doubt I will get to magnitude 20, but I expect I can identify a few more galaxies in that area.

M87 has some challenges, too. I have never seen its famous jet, though other observers report doing so in aperture similar to Harvey, with high magnification and very good seeing, so there is hope. I will have to be careful with my observations, though, for I know the position angle of the jet, so it will be easy to fool myself. M87 has some companions, too -- `_Millennium_` shows NGC 4486A, 4486B, 4478 and 4476 nearby. These are all pretty easy in Harvey, but to my surprise and delight, I was also able to see them in my 90 mm fluorite at 68x, in pretty good sky conditions. NGC 4476 was the easiest, NGC 4486A was tougher, and the other two were very difficult. I did not see any of these in the Sgr-3, though the sky was much brighter when I used that instrument. I suspect it might show NGC 4476 on a darker night.

A coincidental linear grouping of galaxies zig-zags east and north from M84 and M86, all the way to M88. `_Millennium_` plots twelve members, not counting the Messier galaxies, and Harvey shows them all. I had my own personal name for these objects, before I learned that they were called "Markarian's Chain" -- I called this stately procession "The Avenue of Galaxies". Perhaps some think it more nearly resembles a frenetic serpent, for the pair of galaxies nearest M86 and M84 -- NGC 4435 and 4438 -- are known as "The Eyes". For some reason I had picked up on the name as "The Cat's Eyes", even though I have never known any elongated, zig-zaggy felines. A fainter pair, NGC 4458 and 4461, follows, and then a brighter single galaxy, NGC 4473. I have seen all five of these in Refractor Red, as well as in the Sgr-3 and the 90 mm fluorite.

I never tried to trace all of Markarian's chain with Refractor Red, but it zigs toward the northwest at the next galaxy, NGC 4479, a relatively faint one, which precedes NGC 4477, which is much brighter. I could see both of these in the Sgr-3 and in the 90 mm fluorite, but the next two galaxies, NGC 4446 and 4447, are a very faint pair where the chain zags back to the east. I have seen them only in Harvey. The next galaxy in the chain, NGC 4459, is bright enough for the two smaller instruments, but the final two, NGC 4468 and 4474, are beyond them.