

DEEP SKY OBJECTS

THIRD OF A SERIES

M86 & MARKARIAN'S CHAIN

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Spring is a great time of year to observe galaxies. The constellations Ursa Major, Leo, Leo Minor, Coma Berenices, Canes Venatici and Virgo are located far away from the Milky Way, giving clear views of distant galaxies.

Observers first tend to target bright galaxies such as M51, M63, M94, M101 and M106; or galaxy pairs such as M81 & M82 or M95 & M96. And who can resist the Leo Trio – M65, M66 and NGC 3628! There's nothing more exciting in visual galaxy hunting than to spy multiple galaxies in the same telescopic field of view.

All of the galaxies listed above are visible within the first few hours after the end of astronomical twilight. By 10:00 p.m., Virgo has risen high enough in the southeast to start exploring the plethora of galaxies therein. When I was a novice observer, I often scanned this constellation with a 6-, 8- or 10-inch Newtonian telescope, spying countless faint galaxies without ever keeping track of what each one was. With detailed star charts, and setting circles or a GOTO telescope, it is possible to identify scores of individual galaxies in this region of the sky.

A visually challenging but rewarding field to explore is

located around M86, a giant elliptical galaxy residing on the northwest side of Virgo near the border with Coma Berenices. Glowing at magnitude 8.9, the elliptical galaxy M86 is the brightest galaxy in an arc of seven galaxies of 11th magnitude and brighter known as Markarian's Chain. Spanning 1.5 degrees from northeast to

southwest, the chain includes NGC 4477 (10.3, S), NGC 4473 (10.1, E), NGC 4461 (11.0, S), NGC 4435

Benjamin Markarian, who discovered their common proper motion in the mid-1970s.

All of these galaxies should be visible in an 8-inch telescope in moonless skies, depending on the transparency of the atmosphere and the amount of light pollution. Of course, the larger the aperture, the easier it will be to spy all of them and see more detail beyond their galactic cores.

The two galaxies just to the east of M86 in Markarian's Chain, NGC 4435 and NGC 4438, are known together as the Eyes Galaxies due to their pairing and shape. In reality, they are only a line-of-sight pair since they are located at different distances from us.

There are a few fainter galaxies around M86 worth hunting as well. NGC 4388 lies 18 arc minutes southwest of M86. This 11th magnitude edge-on spiral galaxy completes an equilateral triangle with M84 and M86. Smack in the middle of the triangle is 12.1 magnitude NGC 4387, a



The Eyes Galaxies, NGC 4435 & 4438 (left) and M86 (right). Also in the image forming a triangle around M86 are NGC 4402, NGC 4387 and NGC 4425. 120-minute exposure by the author using an SBIG ST-2000XCM CCD camera on a 190 mm f5.3 Maksutok-Newtonian telescope.

(10.6, S), NGC 4438 (10.1, S), M86 and M84 (9.1, E). In parentheses after each, I have included the galaxies' magnitudes and classification – spiral or elliptical. Markarian's Chain was named after the Armenian astrophysicist

smaller elliptical galaxy. All four galaxies should be visible in the same eyepiece field of view. Another nearby galaxy is NGC 4425, a 12th magnitude spiral galaxy located 20 arc minutes south-east of M86.

The greatest challenges are NGC 4413, a 12.9 magnitude spiral galaxy 20 arc minutes south of M86,

and NGC 4402, a 13th magnitude nearly edge-on spiral galaxy 10 arc minutes north of M86. ✨