

THE NIGHT SKY NATURALIST, by Bob Vickers

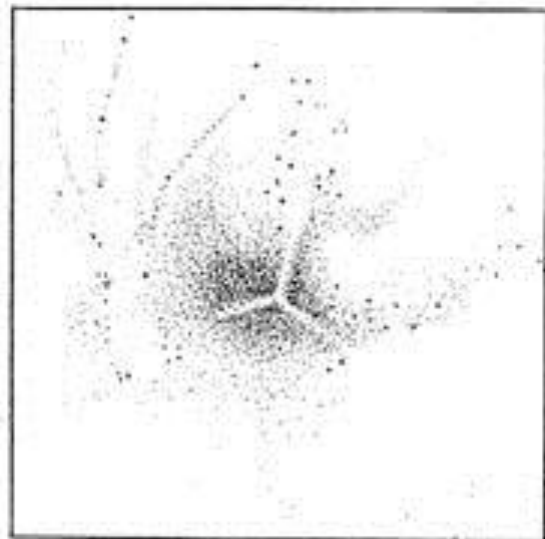
M13 – The Great Hercules Cluster

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The quiet, peaceful nights of winter have now been replaced by summer nights full of the sounds of life. Cicadas, crickets, whippoorwills and barred owls provide a symphony for our ears while the stars of summer provide a symphony for our eyes. Go outside on a warm June night and look up at the stars. Everything you see is just a small part of the much larger collection of stars called the Milky Way Galaxy. Our star, the Sun, is only one of more than a hundred billion other stars in the Milky Way. This galaxy of ours is shaped like a flat, circular disk with a bulge at the center and arms that spiral around it like a pinwheel. On a clear, dark summer night in the country, you can see a pale glow arching overhead from South to North. This is just the glow of that disk of a hundred billion stars seen edge-on. When we look at this band of light we are looking out along the plane of the galaxy.

Surrounding the core of our galaxy are about 150 star clusters (called globular clusters), most of which lie close to the core but some lie beyond the spiral arms. One of the closer and brighter globulars is M13 (the thirteenth deep sky object in Charles Messier's famous list), also called the Great Hercules Cluster, or NGC 6205. Of the many jewels in the summer skies that are worthy of study with a telescope, M13 is one of my favorites. Located along the western edge of the Keystone of Hercules, it appears as a small, round "fuzzy" spot easily seen in binoculars. Through a telescope, on a clear, dark, moonless night, this fuzzy spot resolves into a beautiful sphere of stars and looks like diamond dust poured onto black velvet. Several long sparkling strings of stars curve out and away from its core. Discovered by Edmond Halley in 1714, M13 lies about 23,400 light years away from us and is about 140 light years across.

Looking closer at this grand cluster, you may notice three very faint and oddly straight dark lanes which converge just to the southeast of the core. Described as a "Propeller Structure," it looks to me like a slightly off center Mercedes Benz logo. This strange feature was first noticed by Bindon Stoney in 1850 while using Lord Rosse's 72 inch telescope at Birr Castle in Ireland. As unbelievable as it sounds, the propeller apparently remained unnoticed for 136 years after M13's discovery. After many years of observing I had not noticed it myself until reading a March 2003 *Sky & Telescope* article by Richard Jakiel. After reading his article on *Tips and Techniques for Sketching the Deep Sky* and seeing his sketch of the propeller, I looked for



An exaggerated sketch of the propeller structure in M13, drawn by Bindon Stoney in 1850.

and found it myself. Now, I can't *not* see it! Every time I look at M13 I automatically look for it.

More recently, I have heard about the "Little Propeller", a small group of stars just southwest of M13's core which is supposed to form a cross. I have looked for this little asterism but so far have not been able to identify it. If anyone out there can describe it better and tell me how to find it I would be grateful.

Lastly, check out the nearby 11th magnitude spiral galaxy NGC 6207. It lies just 30' to the northeast of M13 and can be seen along with M13 in the same widefield eyepiece view. It has an elongated halo extending about 3' NE/SW and a fairly bright, elongated core with a bright stellar nucleus. At a distance of 46 million light years, NGC 6207 is almost 2000 times farther away than M13!

"It was as if a globe had been filled with moonlight and hung before them in a net woven of the glint of frosty stars..."

--- J.R.R. Tolkien's description of a jewel called the "Arkenstone of Thrain," from The Hobbit (prequel to The Lord of the Rings)