MONTHLY OBSERVER'S CHALLENGE

Las Vegas Astronomical Society

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&

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NGC-7089 (M-2) – Globular Cluster In Aquarius

Introduction

The purpose of the observer's challenge is to encourage the pursuit of visual observing. It is open to everyone that is interested, and if you are able to contribute notes, drawings, or photographs, we will be happy to include them in our monthly summary. Observing is not only a pleasure, but an art. With the main focus of amateur astronomy on astrophotography, many times people tend to forget how it was in the days before cameras, clock drives, and GOTO. Astronomy depended on what was seen through the eyepiece. Not only did it satisfy an innate curiosity, but it allowed the first astronomers to discover the beauty and the wonderment of the night sky.

Before photography, all observations depended on what the astronomer saw in the eyepiece, and how they recorded their observations. This was done through notes and drawings and that is the tradition we are stressing in the observers challenge. By combining our visual observations with our drawings, and sometimes, astrophotography (from those with the equipment and talent to do so), we get a unique understanding of what it is like to look through an eyepiece, and to see what is really there. The hope is that you will read through these notes and become inspired to take more time at the eyepiece studying each object, and looking for those subtle details that you might never have noticed before. Each new discovery increases one's appreciation of the skies above us. It is our firm belief that careful observing can improve your visual acuity to a much higher level that just might allow you to add inches to your telescope. Please consider this at your next observing session, as you can learn to make details jump out. It is also a thrill to point out details a new observer wouldn't even know to look for in that very faint galaxy, star cluster, nebula, or planet.

NGC-7089 (M-2) – Globular Cluster In Aquarius

M-2 is a globular cluster in Aquarius, one of the brighter Messiers, and is an easy object to see in almost any telescope. This rich cluster is often seen as smooth and fairly round. Many people never notice the additional feature that can be revealed with careful observation and the correct magnification. One of the most interesting features from a visual basis is a curving dark lane crossing the NE section of this very dense cluster. Many observers find this lane to be very difficult, regardless of the size scope. There is also a variable star within the cluster.

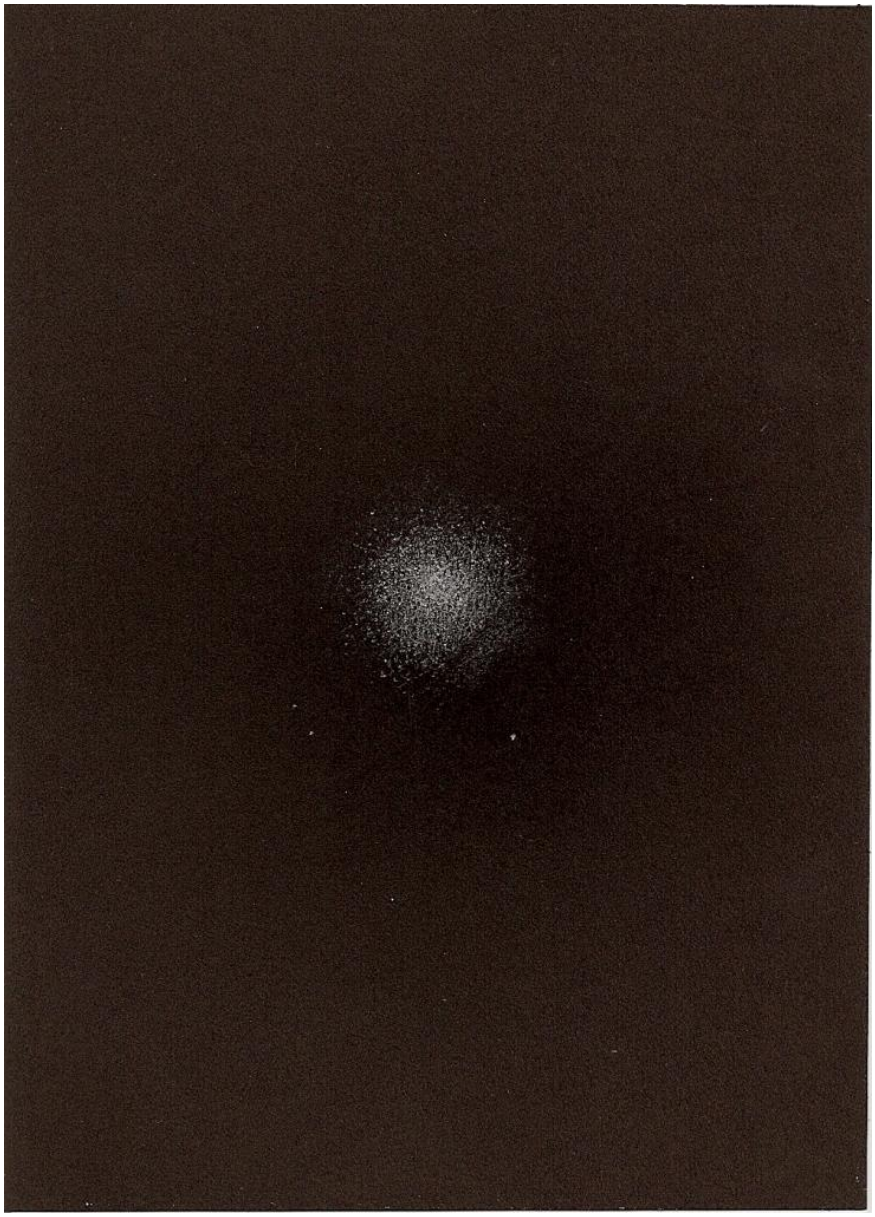
Observations/Drawings/Photos

Roger Ivester): Observer from North Carolina

M-2 is a bright mag. 6.4 globular cluster that is unresolved in my 4-inch refractor. When using a 16mm eyepiece and a 2.8X Barlow for a magnification of 175X, the texture of the cluster became very granular, but without resolution. The cluster was very bright and well-concentrated with a brighter middle.

I saw a few of the brighter stars around the outer perimeter and there was the appearance of a faint halo surrounding the cluster.

The curving dark lane, as described by John Mallas in the Messier Album using a 4-inch refractor, proved to be difficult, indeed. It required averted vision at 175X and was fleeting at best. He couldn't hold the dark lane constantly, but during moments of steady viewing, it was an amazing sight, almost appearing surreal. It's interesting to note that Mallas himself thought it initially to be an illusion.



After countless observations of this cluster over the past 20 years, I've only observed the curving dark lane once, despite using a variety of telescopes, including a 10-inch reflector.

Walter Scott Houston reported seeing M-2 with the naked eye. He saw this cluster from Kansas, Missouri, Arizona, and Louisiana, but never mentioned seeing the dark lane with either the 4-inch Clark refractor or his 10-inch reflector.

Fred Rayworth: Observer from Nevada

Because of the park ranger, I never got a chance to go for M-2 this month at Sawmill Trailhead on Lee Canyon Road near Las Vegas, Nevada. However, going back over my notes, I've never picked out the dark lane. My most common observation, besides a soft milky glow, was a brighter foreground star within the cluster that is off to one side.

Rob Lambert: Observer from Nevada

In observing M-2 for this month's challenge, I used my Mallincam at integration settings of 2, 7, 14, and 28 seconds. The 56 second integration/exposure washed out too much of the globular's core to be useful. At each of these integration settings, I was able to locate the curving dark lane described in the challenge. As can be seen in all of the images, the dark lane is just over half-way between the brighter star on the northeast (left) edge of the cluster and the core. In my images, it looks like a parenthesis "(" left of the core, that curves back toward it.

Remember, that an SCT's images are flipped horizontally and vertically. North is to the bottom left corner of the image, and east is toward the upper left corner. In the 7 and 14 second images, there is a smaller dark lane that resembles a reversed letter "C" between the dark lane and the core. At longer integrations/exposures, the smaller dark lane gets washed out.

These particular images give the impression that the cluster is moving toward the east like a comet, trailing stars in several chains out to the west. Many of the stars in these chains and many others around the outer periphery of the cluster can be individually resolved and are red or yellow in color. I didn't have the opportunity to reduce the focal length to increase the

magnification of the cluster. I hope to observe it again on my next outing, at higher magnification so I can better identify the red and yellow giants that occupy the outer regions. At some time in the future, I also hope to identify the variable star mentioned in the challenge. I didn't have an opportunity to view the cluster over a two week period and identify the variable star.

Although not as large and as spectacular as the Hercules Cluster, M-2 is interesting in its own right, with its dark lanes, chains of stars, and colorful stars. Look for updates to this observation in the near future.

Ryland Ogle: Observer from Las Vegas

I used a 6-inch refractor for my images. I'm still learning how to use the Mallincam, but as can be seen, I'm not doing too bad.