

# One Good Target

With Some Other Sights Worth Seeing  
While You're in the Neighborhood

August

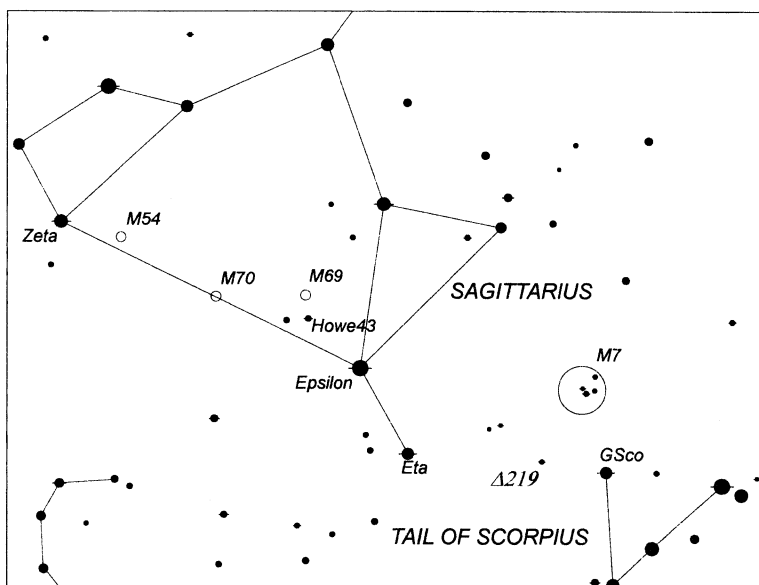
## Globular Clusters Along the Base of the Teapot (M69-M70-M54)

with side trips to a couple doubles and a double-triple

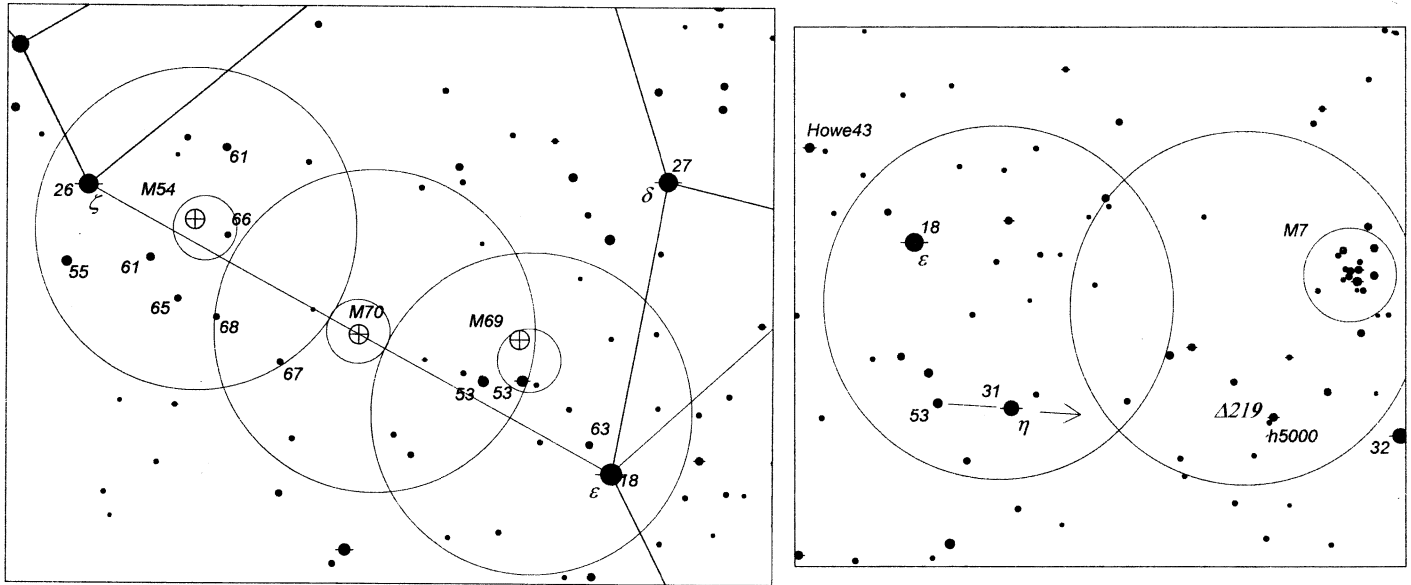
A low target for observers at mid-northern latitudes, the Teapot of Sagittarius reaches its highest point in the sky around 10:30 pm daylight savings time in early August (9:30 pm at the end of the month), making this a good time to hunt down the trio of Messier globular clusters that line up along the Teapot's base.

Start with the 5° finder/binocular fields shown on the next page, moving from mag 1.8 Epsilon (ε) Sgr at the Teapot's west end to mag 2.6 Zeta (ζ) Sgr on the east. The westernmost globular is **M69**, a dense round cluster 4 arcminutes wide, glowing at integrated magnitude 7.7 and visible in binoculars or a finder as a fuzzy "star." At the middle of the Teapot's base is **M70**, about the same size as M69 and just as dense. At mag 8.1 it's not quite as bright as M69, but it looks about the same in binoculars or a finder. Near the east end of the base we find **M54**, also mag 7.7 but a touch larger at 6 arcminutes. Its slightly larger size makes it non-starlike, a small round patch of light in binoculars or finders. Once you have each cluster in view, center it in your finder and switch to a low power 1° eyepiece view. If you can't spot the clusters in your finder, mag 5.3 star Howe 43 will bring you to the right 1° field for M69; for M54, pan west from Zeta until you run into the mag 6.6 star just west of the cluster; and for M70, point your scope at the midpoint of the line between Zeta and Epsilon, and you'll be within a 1° field of the cluster. (Eyepiece views for all three clusters are shown in additional charts on page 3 below).

*This month's targets  
showing stars to mag 6  
(North at top)*



In small scopes around 100x, all three of these clusters appear as a featureless bright round glow with a brighter center. M69 and M70 become grainy in 4" scopes; they begin to resolve individual stars in 6" instruments at high power, and resolve more thoroughly (but not completely) in 10" to 12" apertures. Look for the arcing trail of stars extending from M70 that British observer K.G. Jones likened to sparks shooting off to the NE. M54 is more stubborn, and does not resolve into individual stars even in large scopes. That's due to its greater distance from us: while M69 and M70 are around 30,000 light years from the Sun (and less than 2,000 LY from one another), M54 lies a whopping 90,000 LY from us, at the center of the Sagittarius Dwarf Elliptical Galaxy, a member of the Local Group that is slowly being absorbed by the Milky Way.



**5° finder/binocular fields, showing stars to mag 7.3 (North at top) – selected mags noted, decimals omitted**

While you're in the neighborhood, check out two very similar double stars near the Teapot's spout. The first of them is **Howe 43**, located between Epsilon (ε) Sgr and M69 – a short arc of mag 6-7 stars leads from Epsilon to the double. Its bright white mag 5.3 primary is only 3½ arcseconds from a faint mag 9.8 companion. Extending SW from the base of the spout is **Eta (η) Sgr**, a mag 3.1 pulsating variable red giant that provides a nice color contrast with its mag 7.8 white secondary 3½ arcseconds away. Expect to need fairly high power – at least 150x – to split each of these pairs.

Before packing up for the night, wander a little farther west for an unusual treat: **Dunlop (Δ) 219** and **(John) Herschel (h) 5000**. While we've visited a few double-doubles over the years, this is our first double-triple, located just a few degrees SE of Ptolemy's Cluster (M7). Starting with the finder field that brought you to Eta, pan one field farther west to reach the Dunlop group sitting directly on top of h5000: if you reach mag 3.2 star G Sco at the tip of The Scorpion's tail, you've gone too far. Dunlop 219 pairs an orangish mag 5.8 primary with a silvery mag 7.8 secondary 54 arcseconds to the WSW, and a much fainter mag 11.3 companion 41 arcseconds due south, creating a nearly equilateral triangle. Just 6 arcminutes to the SE, h5000 shows us a yellowish mag 7.1 primary and pale blue mag 9.0 secondary 7¾ arcseconds apart, with a faint mag 11.2 companion 89 arcseconds to the NE, forming a long isosceles triangle. While even very low power (20x or more) will be enough to split the Dunlop trio, you'll need 75x to 100x to pry apart the close pair in h5000 – but that's not much to ask in exchange for the opportunity to log a double-triple among your observing feats, an accomplishment that marks a fitting finish to our exploration of the Teapot's southern reaches.

*Rick Gering – August 2025*

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Additional Charts: Eyepiece Fields

1° fields

Stars to mag 10.5

Selected mags noted,  
decimals omitted

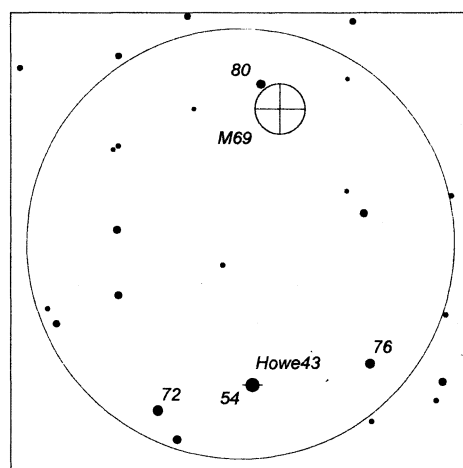
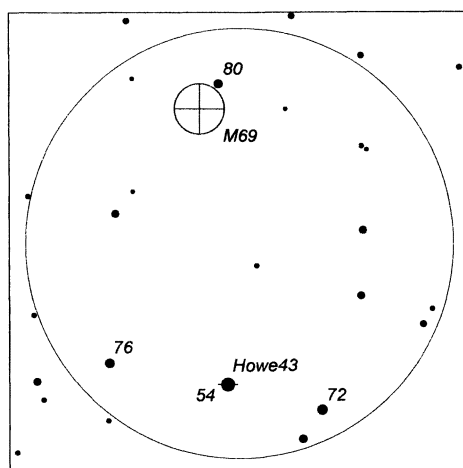
Left:

erect image, N at top

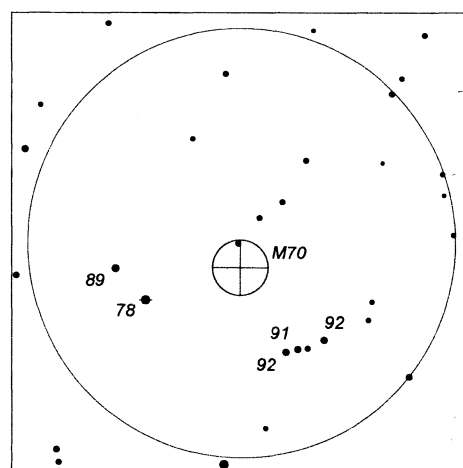
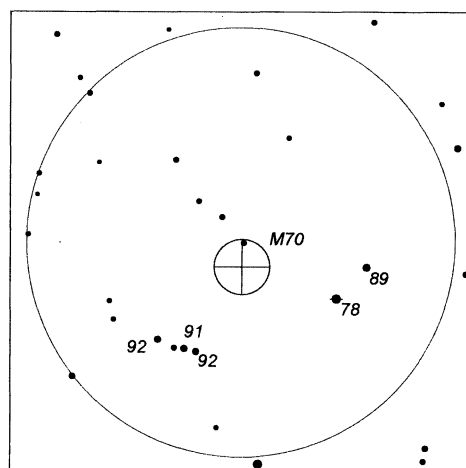
Right:

mirror-reversed

M69



M70



M54

