

One Good Target

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

May

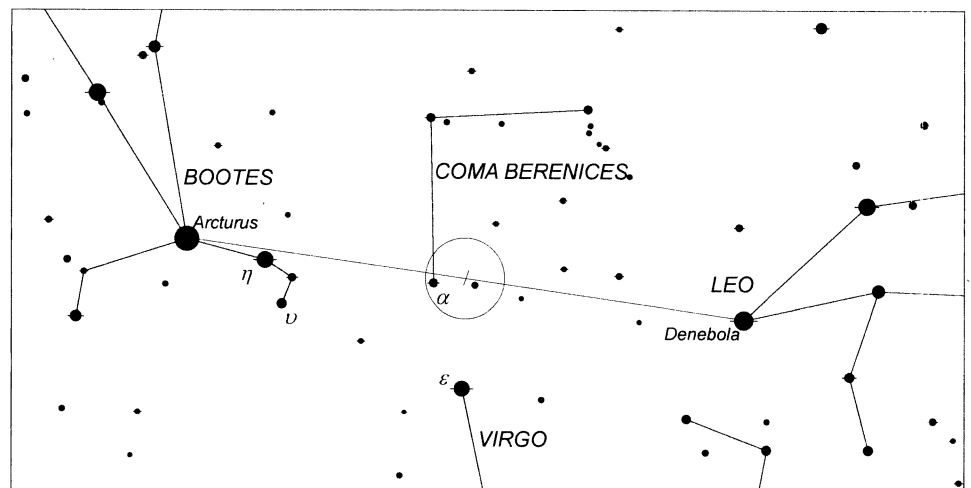
Two Globular Clusters in Coma Berenices (M53 and NGC 5053)

with side trips to a couple color-contrast pairs and an easy red dwarf

Although Coma Berenices is far from a tiny constellation, it's dwarfed by its much larger neighbors Virgo, Boötes, and Leo. But within its modest boundaries, Coma is home to a broad array of celestial treats and treasures, ranging from the Coma Galaxy Cluster in the very deep sky, many of the much closer galaxies of the Virgo Cluster, our even closer neighbors in the Coma Star Cluster, and this month's principal targets, a pair of globular clusters, **M53** and **NGC 5053**, sitting together as if they were sharing a meal at the east edge of the constellation.

The clusters are easily found by starting midway between the bright stars Arcturus (Alpha [α] Boötis) and Denebola (Beta [β] Leonis), where you'll find a pair of mag 4½ stars that fit easily in a 5° finder or binocular field. Center the more easterly star (Alpha [α] Comae Berenices) in the field, and both clusters will be there too. The brighter one, M53, will be an unresolved cloudy patch. You won't be able to see NGC 5053 in your finderscope: it's 1° ESE of M53, and forms a right triangle with Alpha (α) Com and a mag 6.5 star (β 800).

**Where to find
this month's targets:
area view,
stars to mag 5.2**

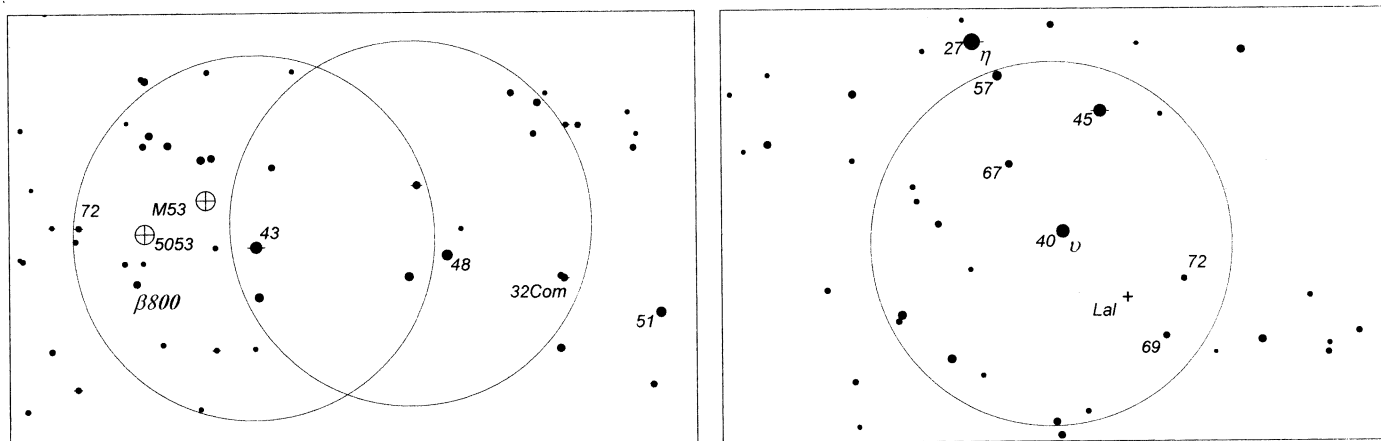


Discovered by J. E. Bode in 1775, **M53** contains over 500,000 stars, glowing at integrated magnitude 7.7 spread across an area 10 arcminutes wide. It's an excellent target for small scopes, which show it as a round fuzzy ball with a hint of brightness at the core. Magnifications between 60x and 150x give the best views. 6" scopes reveal a granular texture, but no discrete stars. The cluster's edges begin to resolve in 8" instruments, and it

resolves nicely in 10"-12" scopes, with dozens of discrete members. Averted vision reveals a large field of tiny outliers, and evokes Webb's description of this cluster as "a brilliant mass of minute stars, blazing in the center."

NGC 5053 is one of the most star-poor globular clusters in the sky, with a mere 3500 members, and is so loosely organized that it was long classed as an open cluster rather than a globular. Its roughly triangular mag 9.8 glow covers an area 8 arcminutes wide. You'll need a 6" scope to see it at all, and then only as an evenly-lit grainy haze. It begins to resolve in 10"-12" instruments, but remains evenly-lit, with no central brightening: at these apertures, Walter Scott Houston described it as "a little patch of fairy fire." Some observers have reported a tidal bridge connecting the two clusters, which – along with their similar distances from us – raises the possibility that they might have interacted in the past, and may be the only known binary globular in the Milky Way.

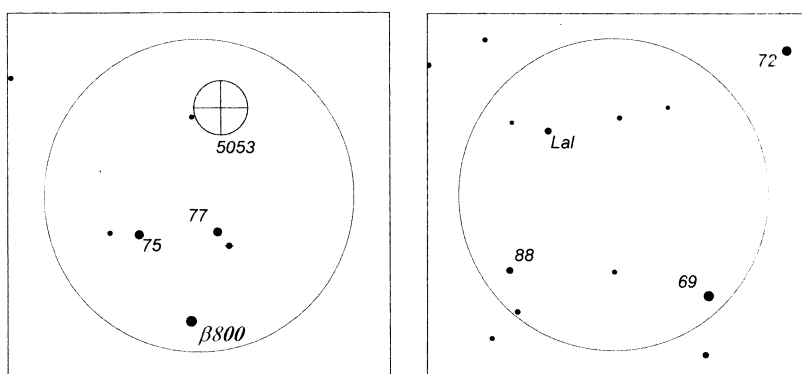
While you're in the neighborhood, go back to the finder view and take a closer look at the mag 6.5 star that helped you find NGC 5053. On closer inspection at 75-100x, you'll find that it's a pair known as β 800 from the double star catalog compiled by S.W. Burnham and published in 1906. The orange mag 6.6 primary is 7 arcseconds away from its red mag 9.7 companion. A much wider pair, **32 Com**, can be seen in the finder field surrounding the midpoint of the line from Arcturus to Denebola, where tonight's hunt began. It's a subtle color-contrast pair, orange and yellow-white, with a mag 6.3 primary a distant 195 arcseconds (3¼ arcminutes) from the mag 6.7 secondary star.



(Top) 5° fields, stars to mag 8:
Targets in Coma (left), Lalande 25372 (right)

(Bottom) 1° fields, stars to mag 10:
NGC 5053 (left), Lalande 25372 (right)

(All) North at top, unreversed view,
selected mags noted, decimals omitted



Before packing up for the night, swing your scope eastward to the trio of stars lying below right of Arcturus, where you'll find a mag 8.5 red dwarf star, **Lalande 25372** (aka Gliese 526 or Wolf 498), roughly midway between mag 4.0 orange giant Upsilon (u) Boötis and a mag 6.9 star. Located only 17.6 light years from us, this star is much smaller than our Sun, having roughly half its size, a quarter of its mass, and 1/100 of its luminosity. It's a star very different from our own, and a fitting place to end our night's explorations.

Rick Gering / May 2024