

One Good Target

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

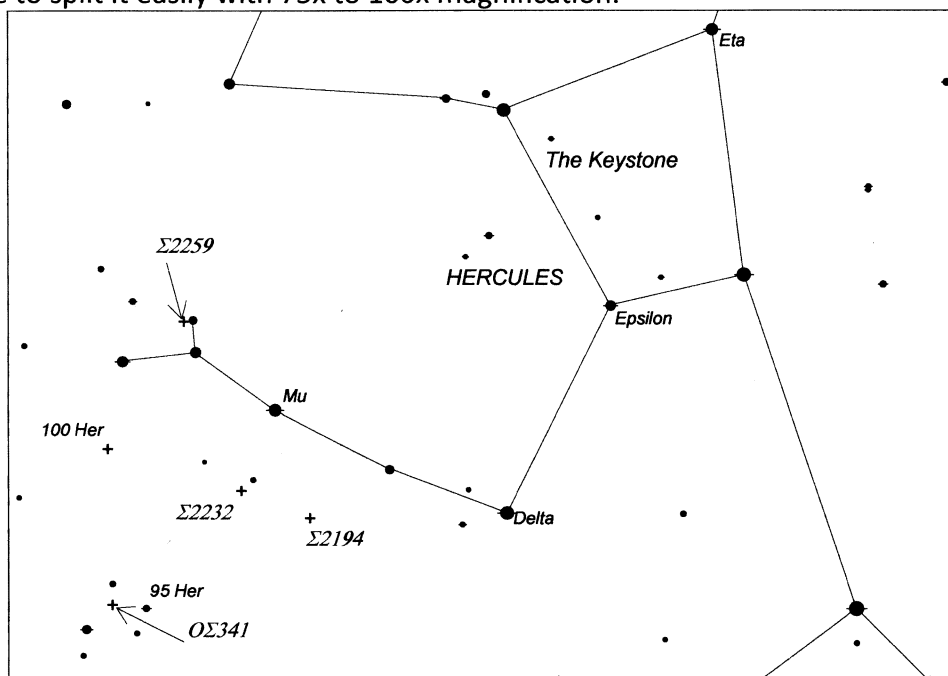
June

Double Stars in SE Hercules

To most amateur observers, the constellation **Hercules** immediately conjures up images of its two magnificent globular clusters, M13 and M92 (which we covered here in July 2019). If we ask about double stars in this area, many observers will be familiar with the unusual red and green appearance of Alpha (α) Herculis, also called Ras al Gethi, but few will have seen any of the other doubles in this constellation – and that's a shame, since the area southeast of the well-known Keystone asterism, in particular, is home to a nice collection of attractive and easily-found pairs. They'll be the targets of our quest this month.

To reach the first double on tonight's hunt, draw an imaginary line from Eta (η) Herculis, at the NW corner of the Keystone, through Epsilon (ϵ) Herculis at the Keystone's SE corner, and one step farther to reach **Delta (δ) Herculis**. Delta is an optical pair, not a gravitationally bound system. It presents a mag 3.1 blue-white primary 14" away from an ambiguously-colored mag 8.3 secondary sometimes described as "ruddy purple." You should be able to split it easily with 75x to 100x magnification.

***This month's targets:
North at top,
showing stars to mag 5.5***



Next, pan 7.6° NE to reach **Mu (μ) Herculis**. Mu's yellow-white mag 3.5 primary is over 300 times as bright as the mag 9.8 secondary, which is separated by 35" from the brighter star. Despite the wide separation, you'll need fairly high power to see this pair, since the magnification needed to split a double depends not only on the stars' separation but also on your scope's aperture, seeing conditions, and the difference in magnitude between the two stars, which is considerable in the case of Mu Her: you might be able to split it around 60x, but it could take as much as 150-200x to do it. The secondary is actually a pair of red dwarf stars separated by only 1" – too close to be split in amateur telescopes – and glows softly with a deep red color, like the fading embers of a dying fire. It probably won't jump out at you, but take your time, let your eye relax, and be patient: the secondary will reveal itself when it's ready to do so. It'll be worth the wait.

For our third target, **Struve (Σ) 2259**, pan NE again to reach the triangle of stars representing Hercules' outstretched hand. The faintest of the three is mag 4.4 Nu (ν) Herculis, and Σ2259 is just 11 arcminutes SE of it. It combines a yellow mag 7.3 primary with a blue mag 8.4 secondary a generous 20" away, giving us a nice color-contrast pair that can be split at magnifications as low as 50x.

Pan SSW to put Mu Her at the north edge of a 5° finder field containing our next quarry, **Struve (Σ) 2194**, which forms the faintest corner of a 20-arcminute triangle of golden yellow stars. Its mag 6.5 and 9.3 components are deep yellow and lilac blue, respectively, and are separated by 16". They should split cleanly with moderate power, say 50-75x.

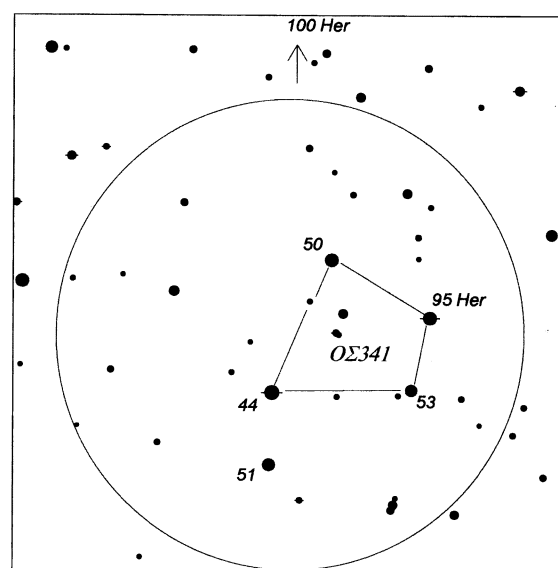
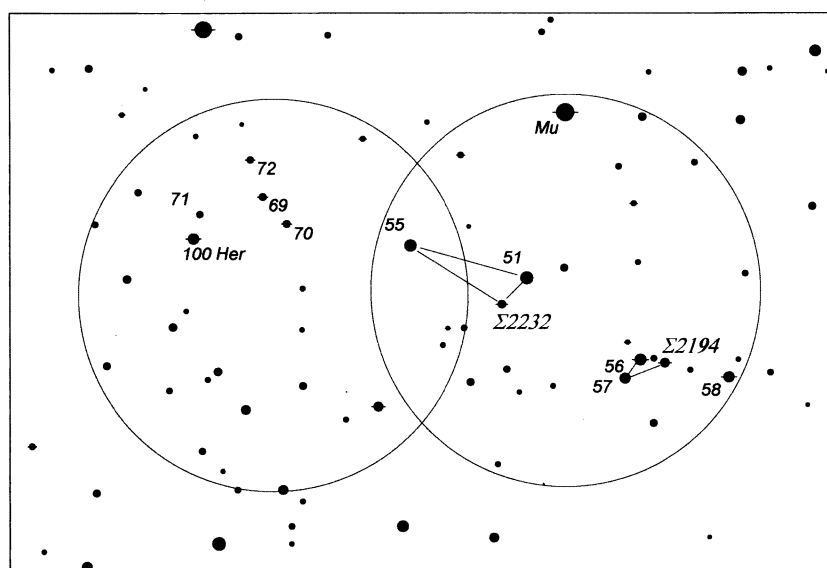
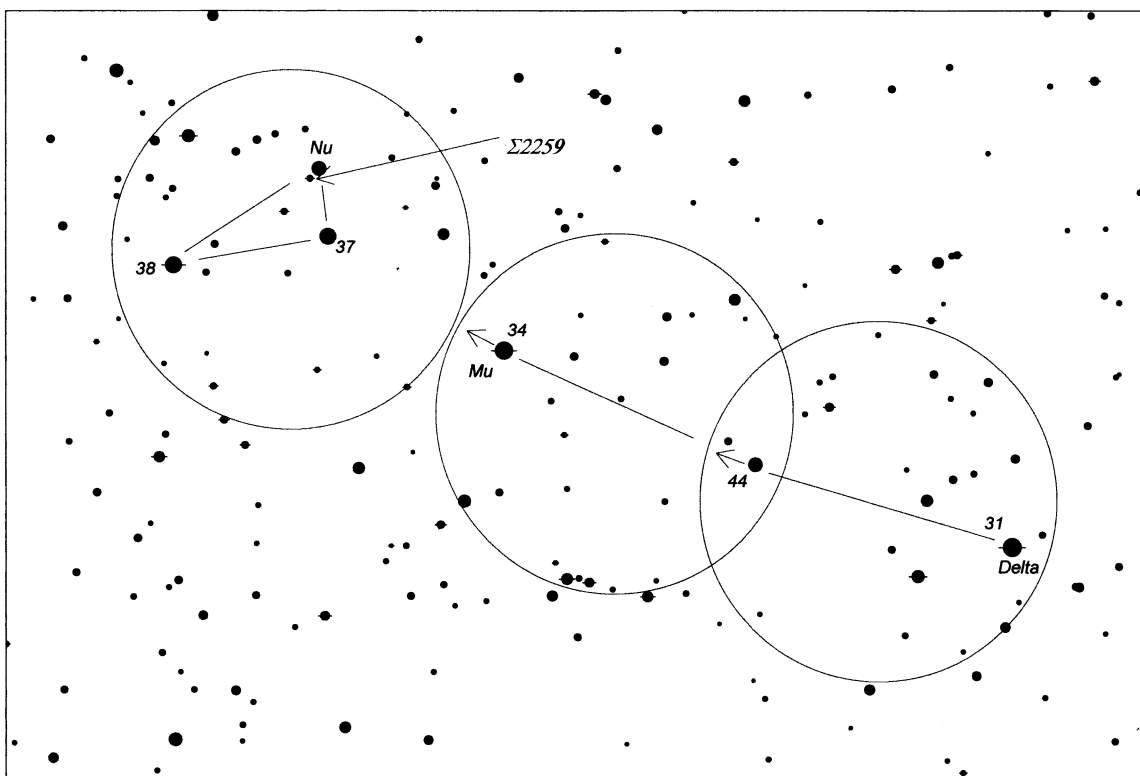
The same finder field includes our next target, **Struve (Σ) 2232**, which forms a 1½° tall, ½° wide triangle with two mag 5 stars. Only 6" separate its white and bluish components, mag 6.7 and 8.9, so you'll need to bump the magnification to 125x or more in order to split the pair. Then pan just over 4° ENE to **100 Herculis**, a wonderful balanced pair of blue-white mag 5.8 stars separated by 14". They should split nicely around 75x.

To find our final pair of pairs, look for a trapezoid-shaped asterism of mag 4-5 stars, like the Hercules Keystone in miniature, 5° due south of 100 Her. The star at the NW corner of the trapezoid, **95 Herculis**, is a justly-famous pair, mag 4.9 and 5.2 with a separation of 6", which should split nicely at 125x to 150x. There is wide disagreement about this pair's colors, ranging from Admiral Smyth, who described them in typically Victorian fashion as "apple green and cherry red," to Sissy Haas, who says they're both "pure gold."

Our final target, **Otto Struve (OΣ) 341**, is just over 1° east of 95 Her. Its mag 7.1 primary is an Algol-type eclipsing binary too close to separate visually. A third star orbits the spectroscopic pair at a distance of a half arcsecond. To the east is an arc of three mag 10 stars, all gravitationally bound to the primary group and wrapping protectively around it. It's a complicated but somehow stable scene, and a fitting place to wrap up tonight's explorations among the double stars of Hercules.

Rick Gering / June 2025

This month's finding charts appear on the following page



***This month's finding charts:
5° fields, North at top, showing stars to mag 8
Selected magnitudes noted, decimals omitted***