HERCULES

BY CHRIS BECKETT & RANDALL ROSENFELD

> Right there in its orbit wheels a Phantom form, like to a man that strives at a task. That sign no man knows how to read clearly, nor on what task he is bent, but men simply call him On His Knees [Engonasin]. Now that Phantom, that toils on his knees, seems to sit on bended knee, and from both his shoulders his hands are upraised and stretch, one this way, one that, a fathom's length. Over the middle of the head of the crooked Dragon, he has the tip of his right foot; Aratus (*fl.* ca. 390–240 BC), *Phaenomena*, Mair trs. 1921, 384–387.

The keystone star pattern of Hercules keeps the celestial sphere of summer suspended overhead for northern observers and just fits in a 9º binocular. The Romans associated the "Kneeling One" to the mythical strongman Hercules, now known as home to one of the first deep-sky objects observers learn to locate by heart, Messier 13. However, there is much more worth taking a gaze at as the constellation passes through zenith.

Rasalgethi represents the "head of the kneeler" and means northern observers imagine Hercules upside down. William Herschel discovered the variability of Rasalgethi changes from an eye-catching 2.7 magnitude to a 4.0 over a six-year period, greatly altering the region of the sky. Small telescopes split it into two components, a brilliant red-orange primary and rare blue-green secondary. For those more interested in star patterns than variables, DoDz 7's sailboat-shaped pattern of stars is a low-power telescope field to the north. According to Bratton, Herschel also discovered 33 deep-sky objects within Hercules with Deep-Sky Gems 6106, 6181, 6207, appearing as large, faint spirals with core details visible through big instruments. Hercules also includes globular cluster 6229 plus galaxy 6364, discovered by Édouard Stephan of Stephan's Quintet fame, requiring significant aperture to appear non-stellar. Herschel also determined the approximate position for the solar apex in Hercules, the direction to which our Solar System is heading in space, as close to Lambda Herculis, only 10º or one fist at arm's length away from today's accepted position. The apex cannot be visually observed, but 4º south is Webb's Wreath, a suitable replacement.

Flanked by two mag. 6 stars, M13 is visible to the naked eye as a faint, fuzzy star that went unnoticed, until Edmund Halley's observation in 1714. Messier observed the "nebula without stars" much like modern binoculars reveal it as a bright, yet fuzzy star, while telescopes show a sugar pile spilling onto black velvet. Under certain conditions a "propeller" pattern is glimpsed, discovered by Lord Rosse as a "Y"-shaped void or depression stretching across the cluster. From the darkest locations, some observers have reported glimpsing another globular cluster, M92, without optical aid, while observers with large instruments report spiral structure. Another showpiece is NGC 6210, the Turtle Nebula, a blue star-like planetary nebula visible in small telescopes.

Many objects fell out of catalogues as they were discovered to be unassociated stellar groupings, yet Hercules is rich ground for observers wishing to explore asterisms once thought to reside in the realm of the nebulae. Ptolemy catalogued z Herculis as the "rearmost star in the left foot" and it appears as a nebulous star in Bayer's Uranometria. At nearly 7th mag., it is the faintest star charted during pre-telescopic times, making an excellent test for determining the best observing nights from dark locations. Another "nebulous star in the left shin" is how Hevelius catalogued f Herculis, fuzzier to the unaided eye than M13 and with beautiful star chains, when viewed through small instruments.

The region between Hercules and Lyra once was home to Ramus Pomifer, the apple branch, and later the obsolete Cerberus, a multi-headed snake, each held by Hercules during brief appearances on early charts. While these constellations have passed into obscurity, low-power wide-field observing can retrace the crooked tree branches and snake bodies of star trails once thought be a nebula. One such object is the Sudor Ophiuchi asterism (TL-2), Lorenzin's interpretation and coining of a discovery attributed to Hevelius; it contains the stars 32, 33, 33, 34 Oph (near 60 Her) and is a great hunting ground in the boundary of the visible Milky Way Galaxy.

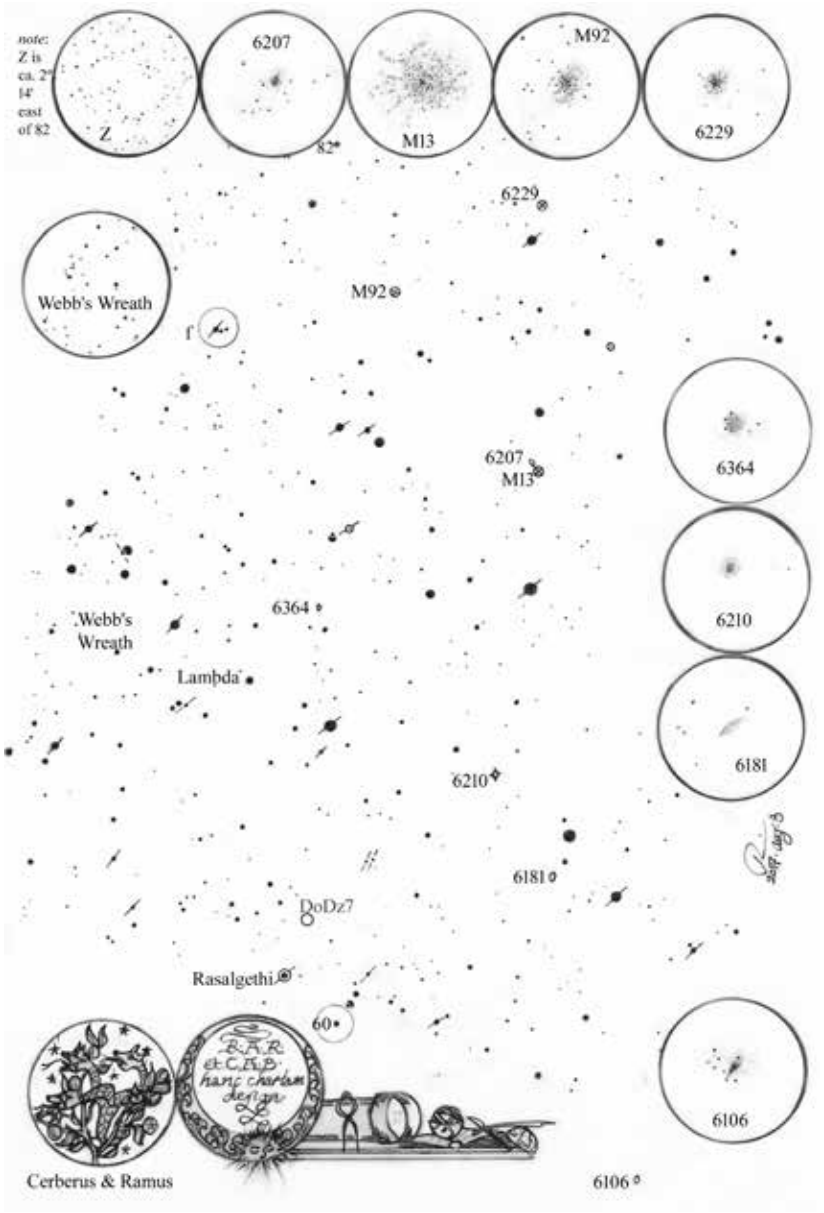

Diagram by Randall Rosenfeld