Deep Sky Object

NGC 288 (GC) Sculptor
ra: 00h 52m 45.5s
dec: -26° 34’ 51”
Magnitude (visual) = 8.1
Size = 13.0’
Concentration class = X (10)

Description: Globular cluster NGC 288 was discovered by William Herschel on October 27, 1785 and cataloged by him as H VI.20. NGC 288 attracted attention of astronomers in the late 1980s when it was compared with the otherwise similar globular cluster NGC 362 on about the same right ascension (but much more southern), and found that NGC 288 must be about 3 billion years older. This result was found because of differences in the color-magnitude diagrams: The so-called Horizontal Branch of NGC 288 is bluer, and the turnoff point of the main sequence (hottest/bluest/most massive main sequence stars) is redder (and fainter). Distance is approximately 29,000 light years.

Binocular observers can view NGC 288 together with the bright galaxy NGC 253 in one field; NGC 288 appears as a round nebulous object. Telescopes of 4 or 6 inches aperture resolve this cluster, provided the observer is located sufficiently south. The rather poor concentration of this cluster is indicated by its classification in class X.

Source: http://spider.seds.org/spider/MWGC/n0288.html

AL: Herschel 400, Southern Sky Telescopic; TAAS 200
Description: NGC 7479 (also known as Caldwell 44) is a barred spiral galaxy about 105 million light-years away in the constellation Pegasus. It was discovered by William Herschel in 1784. Supernovae SN 1990U and SN2009jf occurred in NGC 7479. NGC 7479 is also recognized as a Seyfert galaxy undergoing starburst activity in the nucleus and the outer arms (Kohno, 2007). Polarization studies of this galaxy indicate that it recently underwent a minor merger and that it is unique in the radio continuum, with arms opening in a direction opposite to the optical arms (Laine, 2005).

Source: https://en.wikipedia.org/wiki/NGC_7479

AL: Herschel 400, Caldwell [44]; TAAS 200
Binocular Object

M39 (OC) Cygnus (aka NGC 7092)
ra: 21h 31m 52.0s
dec: +48° 26’ 00”
Magnitude (visual) = 4.6
Size = 31’

Description: Discovered by Charles Messier in 1764. Messier 39 is a very large but very loose open cluster, situated some 9 degrees east and a bit north of Deneb (alpha Cygni). Its distance is only about 800 light years, and it is of intermediate age (estimates between 230 and 300 million years). Thirty stars are proven members and contained in a volume of about 7 light years diameter. Its apparent visual brightness of 4.6 magnitude corresponds to an absolute magnitude of -2.5, or an intrinsic luminosity of 830 suns.

M39's brightest star is of magnitude 6.83 visually, and of spectral type A0. All stars were found to be main sequence stars in the Color-Magnitude Diagram (CMD), or Hertzsprung-Russell Diagram (HRD), with the brightest stars apparently just before the point of evolution toward the red giant phase. The Sky Catalogue 2000.0 gives an estimated age of 270 million years for this cluster. M39 is approaching us at 28 km/s; its proper motion was given as 0.024" per year in the direction of position angle 222 deg (by E.G. Ebbighausen 1940, according to Burnham).

Source: http://messier.seds.org/m/m039.html

AL: Binocular Messier
Description: Delta Cephei is the prototype of the Cepheid class of variable stars. With a change in visual magnitude of 3.5 to 4.4, delta Cephei’s entire range of variability can be observed with the unaided eye. Its period of 5.366 days makes it an attractive candidate for anyone anxious to obtain a star's full change in brightness in a short period of time. Further appeal of this variable is enhanced by its prime position in the northern night sky. At a declination of +58 degrees, delta makes for a perfect target for northern observers, especially for those who see Cepheus as a circumpolar constellation.

Investigation of delta Cephei's heavenly position shows that the variable conveniently sits between two bright stars that shine at either end of its range of variability: zeta Cephei at a magnitude of 3.6 and epsilon Cephei at a magnitude of 4.2. For those observing with binoculars or a modest telescope, delta Cephei's companion stars can be discerned. A 7th magnitude mate is located 41" from the variable itself. It is believed that the duo form a physical pair. A second companion at 13th magnitude is located 20.9" from delta and most likely has an optical, rather than a physical association with the variable. Nevertheless, observers can expect to see delta Cephei’s rise to maximum take place in about a day and a half, while the fall to minimum occurs over 4 days. With such a rapid variation, observers should plan to watch this star every clear night, if possible. Delta Cephei was discovered to be a variable by John Goodricke in 1784.

Source: [http://www.aavso.org/vsots_delcep](http://www.aavso.org/vsots_delcep)

AL: Double Star, Observing Stellar Evolution