

Deep sky delights of Lyra

Despite its small size, the ancient constellation of Lyra is a distinctive and bright group of stars, dominated by brilliant Vega and containing one of the most looked at deep sky objects in the heavens – the planetary nebula M57, commonly known as the Ring Nebula. M57 (NGC 6720) was discovered from Toulouse by Messier's colleague Antoine Darquier in 1779, while he was observing the comet of that year which passed close to it. Said to lie at a distance of around 1,400 light years (although the distances to planetary nebulae are notoriously unreliable) it is estimated to be 20,000 years old and still expanding at a rate of 1 arcsec/century.

With a visual magnitude of 8.8 and a diameter of 76 arcsec, M57 can just be glimpsed in 10x50 binoculars as a slightly fuzzy 'star', but a 75mm telescope will be needed to show it as a torus and a much larger telescope to really do it justice. Like Saturn, it is an object that never fails to impress, and a good object to show your neighbours when you invite them round to look through your telescope before discussing their security lights! In addition to being bright it is also easy to find, lying approximately midway between Gamma and Beta Lyrae at RA 18h53.6m and Dec +33°02' (2000.0).

Low power views often give the impression that M57 is round, but putting the power up will show that it is elongated approximately ENE–WSW. A 300mm telescope will also show that the torus is fainter on the ends of the elongated axis. The central star illuminating the nebula is notoriously difficult to see visually, although it images easily. There is still some debate over whether the star is variable or not, and estimates over the years have ranged from 13th to 16th magnitude. It now seems to be around 15th magnitude. Success in seeing it seems to depend on using very high power – say 500 or 600 times – to darken the interior of the ring, combined with a night of excellent transparency and steady seeing; but even then it is far from easy.

An image of M57, taken by Andrew Wilson and Peter Hewitt is shown. The central star is clear, along with another star inside the ring and one superimposed on the torus. Some variation in intensity around the ring can also be seen. This can be picked up visually in large telescopes, particularly if an OIII filter is used.

Lying just over 4 arcminutes to the north-west of M57 at RA 18h53.3m and Dec +33°3.9' is the barred spiral galaxy IC 1296. An extremely difficult visual target, it shows

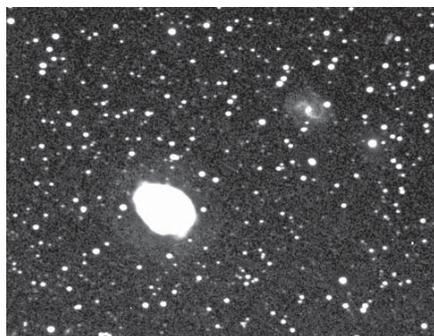


Globular cluster M56, also by Andrew Wilson and Peter Hewitt of Tonbridge, details as before. 10x60s stacked images, 2005 August 27.

up well in Andrew's second image which has been processed to overexpose M57 but bring out the galaxy. An additional result of this processing is that it shows a hint of the outer envelope of M57, first photographed by J. C. Duncan in 1937 using the 100-inch telescope at Mount Wilson Observatory.

Also in Lyra, but often overlooked in favour of M13 in nearby Hercules, is the 8th magnitude globular cluster M56 (NGC 6779). Lying in a star rich area at RA 19h16.6m and Dec +30°11', it can easily be located by sweeping down from Gamma Lyrae to Beta Cygni (Albireo). M56 is a very open class X globular, while its neighbour M13 is a much more concentrated class V cluster. A 100mm telescope shows it well but, as with many deep sky objects, a larger aperture will transform the view, resolving it and showing a small round core.

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Images by Andrew Wilson and Peter Hewitt of Tonbridge, Kent, UK. 200mm Meade LX200 at f/10 with Starlight Xpress MX916 CCD camera. 30x60s stacked images, 2005 August 27. *Left*: Detail and the central star in M57. *Right*: Image processed to overexpose M57 and show detail in the barred spiral galaxy IC 1296.

Erratum – 2006 BZ8

On page 114 of the June *Journal* the 'aphelion distance' of asteroid 2006 BZ8 is given as 1.9 AU. Apologies: this should read 'perihelion distance'.

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