

Monoceros is a fairly obscure pattern of faint stars to the west of Orion and north of the brilliant star Sirius in Canis Major. In the UK it is best seen during winter evenings. Despite the faintness of its chief stars it is an interesting part of the sky because the Milky Way flows through it and there are a number of open clusters and emission nebulae to see and photograph.

Monoceros was introduced as a constellation in 1612/13 by the Dutch cartographer Petrus Plancius. It represents the mythological unicorn.

STARS

α Monocerotis (mag. +3.9) is a yellow giant star at a distance of about 148 light-years.

β Mon (mag. +3.7) is the brightest star in the constellation. It is a fantastic triple star for small telescopes. It consists of a curve of 4th and 5th magnitude stars. It was discovered by William Herschel and he described it as “one of the most beautiful sights in the heavens”. The estimated distance is about 700 light-years.

γ Mon (mag. +4.0) is an orange giant at a distance of about 800 light-years.

δ Mon (mag. +4.2) is a white main-sequence star at a distance of 380 light-years.

ε Mon, (mag. +4.4) is a double star consisting of a white primary and yellowish secondary separated by 13 arcseconds. The distance is about 130 light-years.

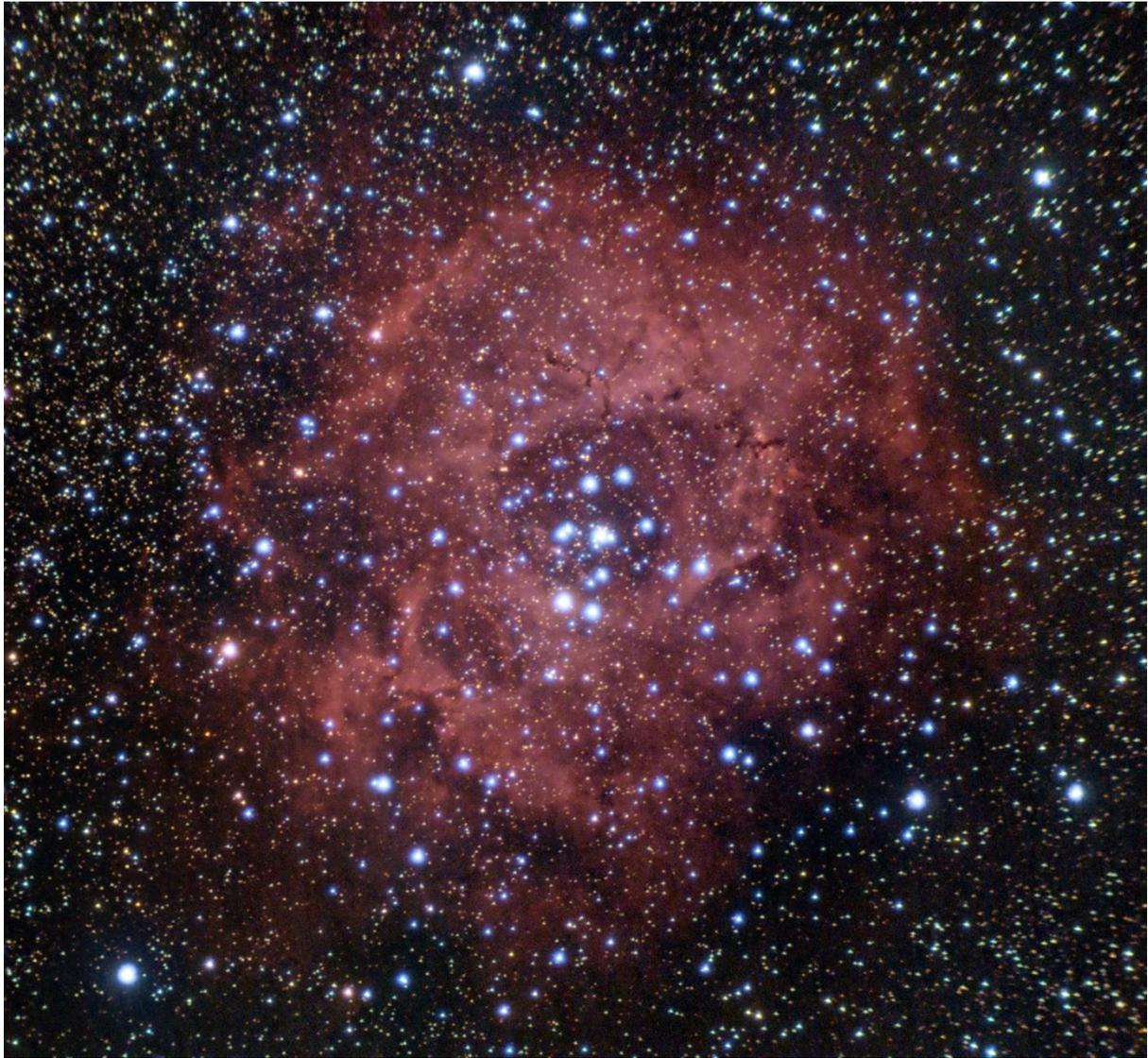


Figure 1 The Rosette Nebula, NGC 2237, is an emission nebula surrounding the open cluster NGC 2244.



Figure 2 (Left) The open cluster M 50. (Right) Hubble's Variable Nebula, NGC 2261.

DEEPSKY OBJECTS

M 50 (mag. +5.9) is an open cluster containing about 500 stars which is visible with binoculars and small telescopes. The shape has been described as heart-shaped by some observers. The size is about 16 arcminutes (half a moon diameter). The estimated distance is 2,900 light-years.

NGC 2237 (mag. +9.0) is more famously known as the Rosette Nebula. The nebula spans about the same area as the full moon and it is a difficult object to detect visually. The nebula shows up readily in long exposures. The Rosette Nebula is an active star-forming region and an open cluster NGC 2244 resides at its centre. The distance to the nebula is about 5,000 light-years.

NGC 2244 (mag. +4.8) is an open cluster at the centre of the Rosette Nebula. The cluster is best viewed with small telescopes and the brightest stars form a long trapezoid. The distance is about 5,000 light-years.

NGC 2261 (mag. +9.0v) is also known as Hubble's Variable Nebula. It was actually discovered by William Herschel in 1783. The astronomer Edwin Hubble studied the variability of the nebula on photographic plates during the early to mid-20th century. The nebula is small (just 2 arcminutes) and fan-shaped. The best views are through larger instruments. The nebula varies in brightness over periods of weeks and months and the variation may be a combination of the variation of the star R Monocerotis (between mag. +10 and +12) which is embedded at the tip of the nebula, and internal dust clouds casting shadows. The estimated distance is 2,500 light-years.

NGC 2264 (mag. +3.9) is a combination of open cluster (nicknamed the Christmas Tree) embedded in an emission nebula (the Cone Nebula). The cluster is prominent in any size telescope and the brightest dozen or so stars form a roughly triangular shape reminiscent of a Christmas tree. The region filled with hot hydrogen gas which provides a low brightness background. The Cone nebula is a dark nebula in front of this background and visually difficult to see in smaller telescopes.