

THE NIGHT SKY

MAY 2022

Autumn evenings grow darker earlier each night, which gives you more time to spend watching the night sky. The crisp, clear skies enhance the brilliance of the stars, and the Milky Way is almost overhead.

The dominant constellation in our evening sky is Scorpius, the scorpion, one of the few constellations in our sky that actually resembles what it is supposed to represent. He makes his presence noticed in the eastern sky. He will keep us company over the coming chilly winter months. Its brightest star, Antares, is a huge star of gargantuan proportions. If we replaced our Sun with it, then all the planets from Mercury through to Jupiter would all find themselves engulfed within it! Just below the tail of Scorpius, you can find the star clusters designated M6 and M7. Take the trouble to observe these with binoculars. They make a beautiful sight, with many bright stars sparkling like diamonds against a background of gold dust.

Using binoculars, take some time to scan the sky around the Southern Cross. Locate the object labelled 5139 on the star chart. Its proper name is Omega Centauri. In binoculars it resembles an out-of-focus star. You can just make it out with the naked eye from the city. It's actually a vast aggregation of some 10 million stars, all arranged in a spherical ball, about 16,000 light years away. The average distance between stars in this cluster, known as a globular cluster because of its shape, is 1 light year. This is about 4 times greater than the star density we are used to in our neighbourhood. Imagine a sky filled with thousands of stars all shining brighter than Sirius. What a sight that would be!

More a telescopic object, than for binoculars, the Jewel Box star cluster (also known as NGC4755), right next to the Southern Cross, cannot be beat for pure splendour. It earned its name because it reminds observers of spying at a lady's collection of precious stones against black velvet. The many coloured stars make this object a definite tourist destination. When you do see it, remember that the light from those stars had already been travelling towards Earth for 2000 years when the Egyptians started building their pyramids 4500 years ago!

Over in the northern sky, Leo, the Lion is easily observed. Its brightest star is Regulus. It stands at the top of a pattern of stars that looks like a backward question mark, outlining Leo's head and mane. Regulus is about 77 light-years from Earth, so

the light you see tonight left the star around the end of the Second World War. Regulus is a blue star that's much hotter and more luminous than our own Sun.

Most of the stars are so far away that they appear as no more than pinpoints of light to even the largest telescopes. But a few stars are close enough or big enough to see them as tiny disks. That allows astronomers to measure how big they are. Measurements that help them understand how stars work. One of the stars that's been measured is Arcturus, in Boötes the herdsman. The star climbs into view in the east by about 9pm. There aren't many bright stars in that area of the sky at this time of the year, so you shouldn't have any trouble finding it.

Measurements reveal that Arcturus is about 25 times the diameter of the Sun. And at a relatively close distance of 37 light years, it's no wonder that it is the 4th brightest star in the night sky.

Planetary observers should plan for some early mornings, starting on May 1. Rise about 5am, and look to the east. Hanging there like 2 car headlights are the 2 brightest planets in the sky, Venus and Jupiter. They will be a superb sight in binoculars. Venus will be the brighter of the two. They might appear close in the sky, but in reality a vast gulf separates them. Venus is 149 million kilometres from Earth, whilst Jupiter will be almost 6 times farther, at a distance of 847 million kilometres.

The 4 brightest planets are all visible in the morning sky. After looking at Venus and Jupiter, look higher up and find the red planet Mars, and higher still the yellow hue of Saturn. As you gaze from morning to morning, you'll note the changing position of the planets. On May 25, Jupiter and Mars are joined by the crescent Moon. On May 27, the view of brilliant Venus and the crescent Moon will be spectacular.

The Moon is New on May 1st, at First Quarter on the 9th, Full on the 16th, at Last Quarter on the 23rd, and New again on May 30th.

Happy stargazing!

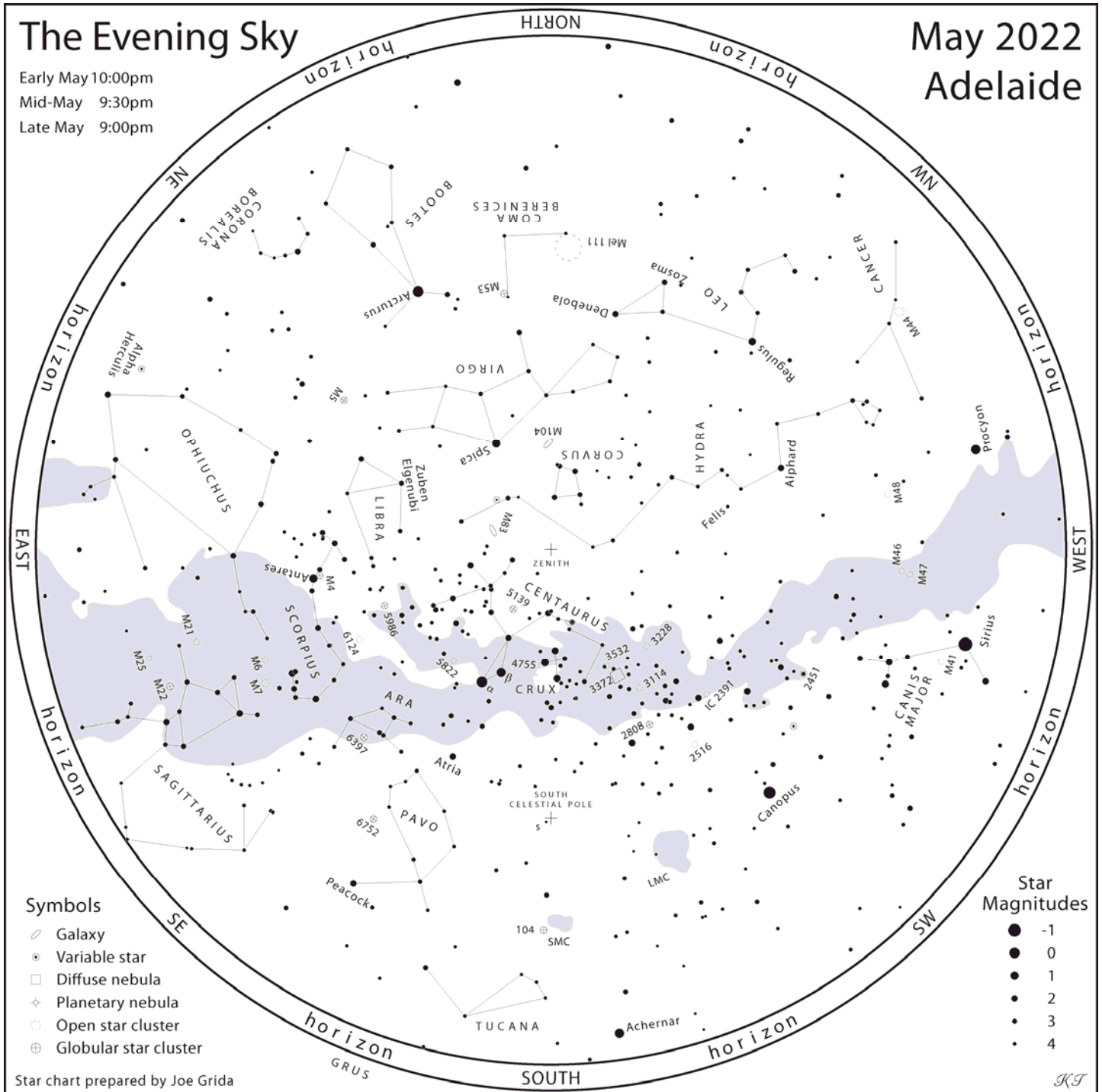


Prepared for guests of
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The Evening Sky

Early May 10:00pm
Mid-May 9:30pm
Late May 9:00pm

May 2022
Adelaide



M104 - The Sombrero Galaxy

Distance: 31 Million Light Years

M104 is truly a remarkable sight with its prominent glowing bulge transected by a thick dusty disk. In the realm of galaxies its haunting form is nearly an icon. M104 is a luminous and truly massive galaxy with an equivalent total mass of 800 billion suns. Its edge-on view has provided astronomers with insight into the organization of matter within spiral galaxies.

M104 is one of a growing list of galaxies known to possess a super massive black hole within its nucleus. M104's black hole contains a monstrous one billion solar masses. Super massive black holes of that size are usually found in very luminous galaxies possessing an active galactic nucleus (AGN). An accretion disk feeds matter to the black hole provoking the release of prodigious amounts of energy in the form of light, radiation, and jets of superheated gas which are characteristic of AGN's.