

About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars. They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy - A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) - A time system used by astronomers. Also known as Greenwich Mean Time. Australian Eastern Standard Time (Sydney, Australia) is UT plus 10 hours.

Variable Star - A star that changes brightness over a period of time.

SOUTHERN HEMISPHERE APRIL 2024

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Easily Seen with the Naked Eye

Sirius Procyon Canopus β Centauri α Centauri Coalsack Castor Pollux Regulus	CMi Greek nam Car Second br Cen With Alph Cen Nearest br Cru Most famo Gem Multiple s Gem With Casto Leo Brightest	test star in the sky. Also known as the "Dog Star". Dist=8.6 ly. ne meaning "before the dog" - rises before Sirius (northern latitudes). Dist=11.4 ly. rightest star in the sky. 14,000 times more luminous than the Sun. Dist=309 ly. In Centauri, forms the so-called "Pointers-to-the-Cross". Dist=525 ly. right star to Sun at 4.4 ly. Brilliant double star in a telescope. 80 year period. Dous naked-eye dark nebula. Requires dark sky. Dist=600 ly. Star system with 6 components. 3 stars visible in telescope. Dist=52 ly. Tor, the twin sons of Leda in classical mythology. Dist=34 ly. Star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.		
5	3	i s		
Rigel	Ori • The bright	test star in Orion. Blue supergiant star with mag 7 companion. Dist=770 ly.		
Betelgeuse	Ori • One of the	e largest red supergiant stars known. Diameter=300 times that of Sun. Dist=430 ly.		
Spica	Vir • Latin nam	ne means "ear of wheat" and shown held in Virgo's left hand. Dist=250 ly.		
Easily Seen with Binoculars				
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Praesepe or Beehive Cluster. Visible to the naked eye. Dist=590±20 ly.

M41	CMa	0	First recorded observation by Aristotle in 325 BC as "cloudy spot". Dist=2,300 ly.
2516	Car	0	Spectacular open star cluster of 100 stars spaning 1/2 deg. Dist=1,300 ly.
2808	Car	\oplus	Located 4 deg W of Nu Carinae. Visible to the naked eye on clear nights.
R Carinae	Car	•	Long period variable. Magnitude varies between 3.9 & 10.5 over 309 days.
3114	Car	0	Stunning open cluster. 30+ stars visible through 7x binoculars. Dist=2,900 ly.
3293	Car	0	Rich, tightly packed. Surrounded by large, faint nebulosity. Dist=8,500 ly.
IC 2602	Car	0	The "Five of Diamonds". Bright cluster twice diameter of full Moon. Dist=491 ly.
3372	Car		Eta Carinae Nebula. Enormous glowing cloud in rich star field. Dist=8,000 ly.
3532	Car	0	Herschel - "most brilliant cluster". 60+ stars in 7x binoculars. Dist=1,300 ly.
ω Centauri	Cen	\oplus	Largest and brightest globular star cluster in sky. 1 million stars. Dist=17,000 ly.
4755	Cru	\Diamond	Jewel Box. Outstanding star cluster. Many contrasting colours. Dist=7,600 ly.
LMC	Dor	0	Large Magellanic Cloud. A neighbouring galaxy of the Milky Way. Dist=180,000 ly.
M48	Hya	\Diamond	12+ stars in 7x binoculars. Triangular asterism near centre. Dist=1,990 ly.
R Hydrae	Hya	•	Long period variable. Mag varies between 3.0 & 11.0 over 390 days. Brilliant red.
γ Leporis	Lep	•	Visible with binoculars. Gold & white stars. Mags 3.6 & 6.2. Dist=30 ly. Sep=96.3".
2232	Mon	\Diamond	A large scattered star cluster of 20 stars. Dist=1,300 ly.
M50	Mon	\Diamond	Visible with binoculars. Telescope reveals individual stars. Dist=3,000 ly.
M42	0ri		The Great Orion Nebula. Spectacular bright nebula. Best with telescope. Dist=1,300 light years.
L ²	Pup	•	Semi-regular variable. Magnitude varies between 2.6 & 6.2 over 140.42 days.
M47	Pup	\Diamond	Bright star cluster. 15+ stars in 7x binoculars. Dist=1,500 ly.
M46	Pup	0	Dist=5,400 ly. Contains planetary NGC 2438 (Mag 11, d=65") - not associated.
2451	Pup	\Diamond	30+ stars in binoculars. The brightest star, χ Puppis, is red. Dist=850 ly.
2477	Pup	\Diamond	Very rich but distant star cluster (4,200 ly). Resembles globular through binoculars.
47 Tucanae	Tuc	\oplus	Spectacular object. Telescope will reveal stars. Near edge of SMC. Dist=15,000 ly.

Fine open cluster visible through binoculars. Dist=1,300 ly.

Omicron Velorum Cluster. Superb object for binoculars. Dist=450 ly.

Telescopic Objects

SMC

2547

M104

γ Virginis

IC 2391



Vir O Sombrero Galaxy. Almost edge-on spiral galaxy. Protruding central core. Superb pair of mag 3.5 yellow-white stars. Orbit=169 years. At their closest in 2005.

Tuc O Small Magellanic Cloud. Companion galaxy to Milky Way. Requires dark sky. Dist=210,000 ly.