Sky Calendar – May 2022

2 Moon near the Pleiades at 13h UT (19° from Sun, evening sky).
2 Moon near Mercury at 16h UT (20° from Sun, evening sky). Mag. 0.9.
3 Moon near Aldebaran at 6h UT (evening sky).
5 Moon at apogee (farthest from Earth) at 13h UT (distance 405,285km; angular size 29.5°).
6 Eta Aquarid meteor shower peaks. Most active for 7 days around this date. Associated with Comet Halley. Very fast, bright meteors, up to 40 per hour. Best seen from the tropics and southern hemisphere a few hours before dawn.
9 First Quarter Moon at 0:21 UT.
10 Moon near Regulus at 0h UT (evening sky).
14 Moon near Spica at 2h UT (evening sky).
16 Full Moon at 4:15 UT.
16 Total Eclipse of the Moon begins at 3:29 UT and ends at 4:54 UT. Mid-eclipse at 4:11 UT. Partial phases begin at 2:28 UT and end at 5:55 UT. During totality the Moon will turn red-orange in color as it passes into the Earth’s shadow. Light passing through the Earth’s atmosphere scatters color as it passes into the Earth’s shadow. Light that reaches the observer is mainly red or orange.
18 Mars 0.52° SE of Neptune at 7h UT (62° from Sun, morning sky). Mags. 0.8 and 7.9.
21 Mercury at inferior conjunction with the Sun at 19h UT. The innermost planet passes into the morning sky.
22 Moon near Saturn at 8h UT (morning sky). Mag. 0.8.
22 Last Quarter Moon at 18:43 UT.
25 Moon, Mars and Jupiter within a circle of diameter 3.3° at 1h UT (morning sky). Mags. 0.7 and –2.2.
27 Moon near Venus at 4h UT (38° from Sun, morning sky). Mag. –4.0. Occultation visible from SE Asia and Indonesia.
29 Mars 0.58° SE of Jupiter at 11h UT (65° from Sun, morning sky). Mags. 0.7 and –2.2.
30 New Moon at 11:31 UT. Start of lunation 1230.

More sky events and links at http://Skymaps.com/skycalendar/
All times in Universal Time (UT). (Australian Eastern Standard Time = UT + 10 hours.)

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The Southern Cross (Crux) can be seen high up in the south-eastern sky this month.

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From southern latitudes, stars appear to rotate around the South Celestial Pole (SCP). The conjugate point for this region is at 2516°E 2070°S. This region of the sky is best seen from southern latitudes. From northern latitudes, stars appear to rotate around the North Celestial Pole (NCP). The conjugate point for this region is at 2547°W 6124°N. This region of the sky is best seen from northern latitudes.

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The Sky Map shows how the night sky looks in May.

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Symbols
- Galaxy
- Double Star
- Variable Star
- Diffuse Nebula
- Planetary Nebula
- Open Star Cluster
- Globular Star Cluster

Star Magnitudes

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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.

Easy Seen with the Naked Eye

Arcturus Boo – Orange, giant K star. Name means “bear watcher”. Dist=36.7 ly.

Sirius CMa – The brightest star in the sky. Also known as the “Dog Star”. Dist=8.6 ly.

Procyon CMi – Greek name meaning “before the dog” – rises before Sirius (northern latitudes). Dist=11.4 ly.

Canopus Car – Second brightest star in the sky. 14,000 times more luminous than the Sun. Dist=309 ly.

β Centauri Cen – With Alpha Centauri, forms the so-called “Pointers-to-the-Cross”. Dist=525 ly.

α Centauri Cen – Nearest bright star to Sun at 4.4 ly. Brilliant double star in a telescope. 80 year period.


Castor Gem – Multiple star system with 6 components. 3 stars visible in telescope. Dist=62 ly.

Pollux Gem – With Castor, the twin sons of Leda in classical mythology. Dist=34 ly.

Regulus Leo – Brightest star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.

Rigel Ori – The brightest star in Orion. Blue supergiant star with mag 7 companion. Dist=770 ly.

Betelgeuse Ori – One of the largest red supergiant stars known. Diameter=300 times that of Sun. Dist=430 ly.


Spica Vir – Latin name means “ear of wheat” and shown held in Virgo’s left hand. Dist=250 ly.

Easy Seen with Binoculars

M44 Cnc – Praesepe or Beehive Cluster. Visible to the naked eye. Dist=990±20 ly.

M41 CMA – First recorded observation by Aristotle in 325 BC as “cloudy spot”. Dist=2,300 ly.

2516 Car – Spectacular open star cluster of 100 stars spanning 1/2 deg. Dist=1,300 ly.

2808 Car – Located 4 deg W of Nu Carinae. Visible to the naked eye on clear nights.

R Carinae Car – Long period variable. Magnitude varies from 3.9 & 10.5 over 309 days.

3114 Car – Stunning open cluster. 30+ stars visible through 7x binoculars. Dist=2,900 ly.


IC 2602 Car – The “Five of Diamonds”. Bright cluster twice diameter of full Moon. Dist=4,091 ly.

3372 Car – Eta Carinae Nebula. Enormous glowing cloud in rich star field. Dist=8,000 ly.

3512 Car – Herschel - “most brilliant cluster”. 60+ stars in 7x binoculars. Dist=1,300 ly.

ω Centauri Cen – Largest and brightest globular star cluster in sky. 1 million stars. Dist=17,000 ly.

Mel 111 Com – Coma Berenices. 80 mag 5-6 stars in 5 deg. Dist=283 ly. Age=400 million years.


LMC Dor – Large Magellanic Cloud. A neighbouring galaxy of the Milky Way. Dist=180,000 ly.

M68 Hyi – 12+ stars in 7x binoculars. Triangular asterism near centre. Dist=9,970 ly.

R Hydrae Hya – Long period variable. Mag varies between 3.0 & 11.0 over 390 days. Brilliant red.

L2 – Semi-regular variable. Magnitude varies between 2.6 & 6.2 over 140.42 days.

M47 Pup – Bright star cluster. 15+ stars in 7x binoculars. Dist=1,500 ly.

M46 Pup – Dist=5,400 ly. Contains planetary NGC 2438 (Mag 11, d=65˚) - not associated.

2451 Pup – 30+ stars in binoculars. The brightest star, χ Puppis, is red. Dist=850 ly.

2477 Pup – Very rich but distant star cluster (4,200 ly). Resembles globular through binoculars.

M4 Sco – A close globular. May just be visible without optical aid. Dist=7,000 ly.

M5 Ser – Fine globular star cluster. Telescope will reveal individual stars. Dist=25,000 ly.


2547 Vel – Fine open cluster visible through binoculars. Dist=1,300 ly.

IC 2391 Vel – Omicron Velorum Cluster. Superb object for binoculars. Dist=450 ly.

Telescopic Objects

3918 Cen – The Blue Planetary. Visible in a small telescope as a round blue disk.


2070 Dor – Tarantula Nebula. A bright nebula located in LMC. A star-forming region.


M83 Hya – Classically-ony satellite. Discovered in 1752 by Lacaille. In attractive star field.

y Leonis Leo – Large yellow giant stars. Mag varies between 5.8 & 6.8 over 2000 years. Sep=4.4˚.

5822 Lup – Large, attractive cluster. Dist=1,800 ly. Open cluster NGC 5823 to the south.

p Lupus Pup – Telescope easily shows two blue-white stars of almost equal brightness. Sep=9.9˚.

6124 Sco – Contains 5 bright tightly packed stars near centre. 7 star chain. Dist=1,600 ly.

3132 Vel – One of the brightest planetaries. Magnitude 10 central star. Dist=2,600 ly.

M87 Vir – Supernova galaxy with supermassive black hole at its core. Dist=35.5 million ly.


y Virginis Vir – Superb pair of mag. 3.5 yellow-white stars. Orbit=169 years. At their closest in 2005.