Sky Calendar – April 2019

1. Moon at apogee (farthest from Earth) at 0h UT (distance 405,577 km; angular size 29.5').
2. Moon near Venus (morning sky) at 7h UT. Mag. ~−4.0.
3. Moon near Mercury (26° from Sun, morning sky) at 2h UT. Mag. 0.8.
4. New Moon at 8:51 UT. Start of lunation 1191.
5. Moon near the Pleiades (evening sky) at 23h UT.
6. Moon near Mars (evening sky) at 10h UT. Mag. 1.5.
7. Moon near Aldebaran (evening sky) at 16h UT.
8. Mercury at greatest elongation west (28° from Sun, morning sky) at 20h UT. Mag. 0.4.
9. First Quarter Moon at 19:05 UT.
10. Moon near Pollux (evening sky) at 22h UT.
11. Moon near Beehive cluster M44 (evening sky) at 21h UT.
12. Mars 6.5° N of Aldebaran (45° from Sun, evening sky) at 1h UT. Mag. 1.6 and 0.9.
13. Moon near Regulus (evening sky) at 10h UT.
14. Mercury 4.3° E of Venus (30° from Sun, morning sky) at 20h UT. Mag. 0.2 and −3.9.
15. Moon near Spica (closer to Earth) at 22:03 UT (364,205 km; angular size 32.8').
16. Moon near Spica (morning sky) at 3h UT.
17. Full Moon at 11:11 UT.
18. Moon near Antares (morning sky) at 11h UT.
19. Lyrid meteor shower peaks at 0h UT. Active April 14–30. Radiant is between Hercules and Lyra. Expect 10 to 20 bright, fast meteors per hour at its peak. Unfortunately, bright moonlight this year means poor viewing conditions.
20. Moon near Jupiter (morning sky) at 13h UT. Mag. −2.4.
21. Last Quarter Moon at 22:18 UT.
22. Moon near Saturn (105° from Sun, morning sky) at 13h UT. Mag. 0.5. Occultation visible from eastern Australia, New Zealand, and western South America.
23. Moon at apogee (farthest from Earth) at 18h UT (distance 404,582 km; angular size 29.5').

More sky events and links at http://Skymaps.com/skycalendar/

Sky Calendar – April 2019

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About the Celestial Objects

Listed on this page are several of the brightest, 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.

Global 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.

Easily Seen with the Naked Eye

<table>
<thead>
<tr>
<th>Object</th>
<th>Constellation</th>
<th>Magnitude</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sirius</td>
<td>CMa</td>
<td>1.4</td>
<td>8.6 ly</td>
</tr>
<tr>
<td>Procyon</td>
<td>CMi</td>
<td>2.6</td>
<td>11.4 ly</td>
</tr>
<tr>
<td>Canopus</td>
<td>Car</td>
<td>1.3</td>
<td>13 ly</td>
</tr>
<tr>
<td>β Centauri</td>
<td>Cen</td>
<td>2.3</td>
<td>25 ly</td>
</tr>
<tr>
<td>α Centauri</td>
<td>Cen</td>
<td>2.0</td>
<td>100 ly</td>
</tr>
<tr>
<td>Castor</td>
<td>Gem</td>
<td>2.1</td>
<td>150 ly</td>
</tr>
<tr>
<td>Polaris</td>
<td>Gem</td>
<td>2.0</td>
<td>160 ly</td>
</tr>
<tr>
<td>Regulus</td>
<td>Leo</td>
<td>2.0</td>
<td>200 ly</td>
</tr>
<tr>
<td>Rigel</td>
<td>Ori</td>
<td>2.0</td>
<td>250 ly</td>
</tr>
</tbody>
</table>

Easily Seen with Binoculars

<table>
<thead>
<tr>
<th>Object</th>
<th>Constellation</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Praesepe</td>
<td>Cnc</td>
<td>100 ly</td>
</tr>
<tr>
<td>The Five of Diamonds</td>
<td>Cnc</td>
<td>150 ly</td>
</tr>
<tr>
<td>The Great Orion Nebula</td>
<td>Ori</td>
<td>200 ly</td>
</tr>
</tbody>
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Telescopic Objects

<table>
<thead>
<tr>
<th>Object</th>
<th>Constellation</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 Piscium</td>
<td>Psc</td>
<td>150 ly</td>
</tr>
<tr>
<td>31 Persei</td>
<td>Per</td>
<td>200 ly</td>
</tr>
</tbody>
</table>

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