THE SOUTHERN HEMISPHERE

With Glenn Dawes

Look out for Mercury high in the sky, Mars meeting Uranus, and two spectacular Scorpius clusters

When to use this chart

1 July 00:00 AEST (30 Jun, 14:00 UT)
15 July 23:00 AEST (13:00 UT)
31 July 22:00 AEST (12:00 UT)

The chart accurately matches the sky on the dates and times shown for Sydney, Australia. The sky is different at other times as the stars crossing it set four minutes earlier each night.

JULY HIGHLIGHTS

Mercury makes its best appearance of the year – a good opportunity to observe its changing size and phase. From around 10 July to 4 August, this elusive planet has a minimum altitude of 10° one hour after sunset. July opens with a small 5-arcsecond disc and a close-to-full phase. As Earth and Mercury draw closer, the disc grows, reaching 7 arcseconds in mid-July now shrunk to a first quarter appearance. The month closes with Mercury having a 9-arcsecond disc with a 3–4-day phase.

STARS AND CONSTELLATIONS

After the solstice, the Sun is at its lowest, a real contrast to summer when it passes overhead from northern Australia. Here's a visualisation experiment: use the July evening sky to trace the Sun's path, the ecliptic, during summer. Decembers commence with the Sun 4° north of Antares. In early January it has moved just north of the lid of Sagittarius's Teapot. Februarys start with the Sun near the centre of the northern line of Capricornus's 'smile'.

THE PLANETS

Mercury is well placed in the late twilight western sky (see above). Venus enters the evening sky; although low in the twilight in late July, this beacon is hard to miss. Saturn arrives around 22:00 mid-month, followed by Neptune an hour later. These distant worlds are best seen in the morning when they're transiting. Mars and Uranus rise around 03:00 mid-month and are best observed in the predawn. They have an interesting conjunction, closing to just 1° apart around 15–17 July.

DEEP-SKY OBJECTS

This month, a trip to the heart of the Milky Way to find two spectacular open star clusters in Scorpius: NGC 6475 or M7 (RA 17h 53.9m, dec. −34° 49') and NGC 6405 or M6 (RA 17h 40.1m, dec. −32° 13'). Easily found between the scorpion's stinger and the Sagittarius Teapot's 'spout', they are both clearly naked-eye objects, recorded by Ptolemy as "little clouds" in the 2nd century AD. Being 4° apart, they make an impressive binocular field. M7 is mag. +3 and embedded in a bright portion of the Milky Way. It's around 1° in diameter, being a well-scattered collection of around 60 stars with the brightest (mag. +6) luminaries in the centre, with numerous star chains showing. In contrast, M6 sits in the central galactic dark lane and is more subdued (mag. +4) than M7. M6 is 0.5° long and narrower in the middle, leading to its nickname, the Butterfly Cluster.

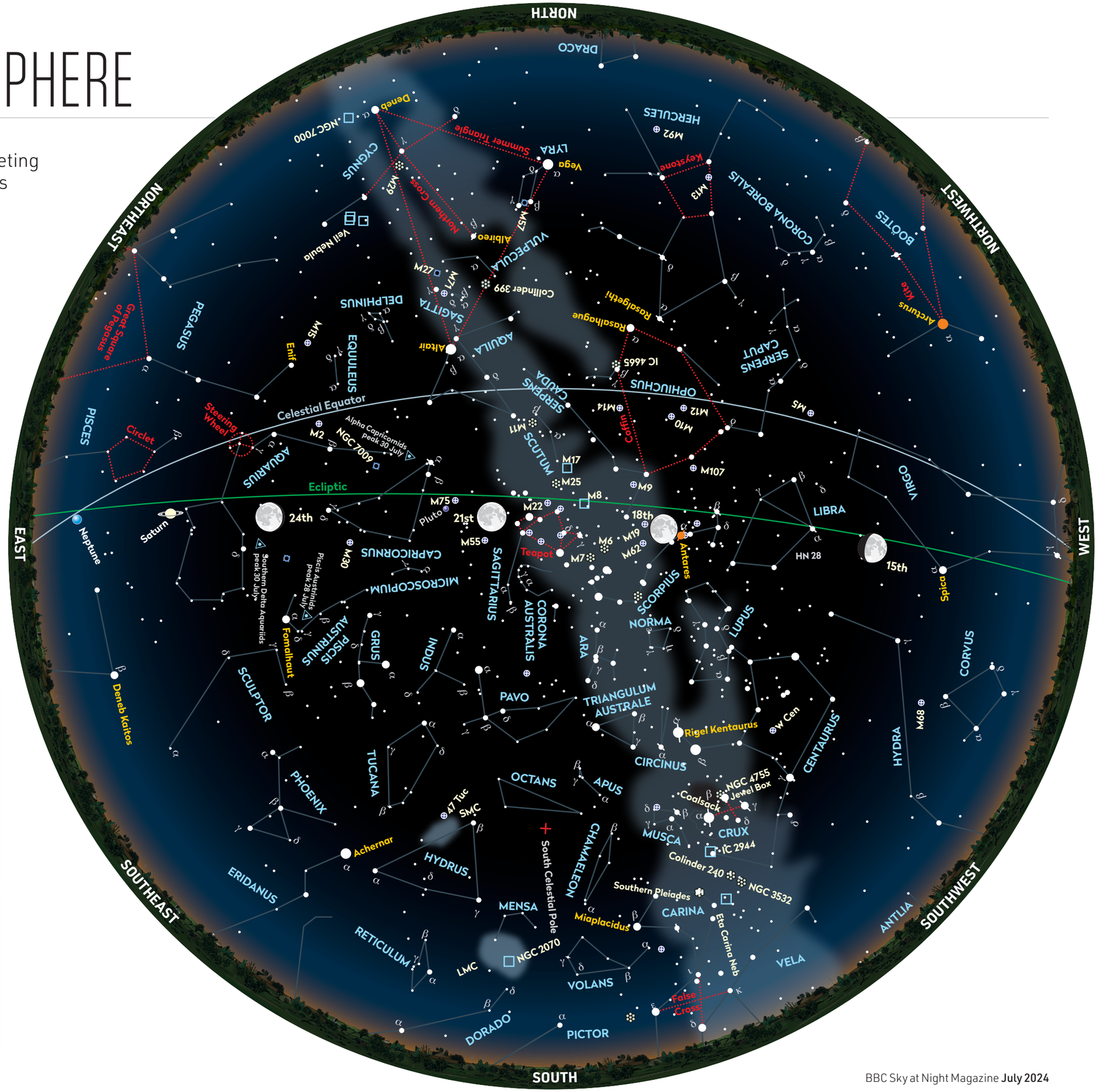

Chart key

- GALAXY
- OPEN CLUSTER
- GLOBULAR CLUSTER
- PLANETARY NEBULA
- DIFFUSE NEBULOSITY
- DOUBLE STAR
- VARIABLE STAR
- COMET TRACK
- ASTEROID TRACK
- METEOR RADIANT
- QUASAR
- PLANET

STAR BRIGHTNESS:
- MAG. 0 & BRIGHTER
- MAG. +1
- MAG. +2
- MAG. +3
- MAG. +4 & FAINTER

CHART: PETE LAWRENCE