THE SOUTHERN HEMISPHERE

With Glenn Dawes

This month, Mars is at its best and we seek out galaxies and a cluster off the tip of the Triangulum

When to use this chart

1 Dec at 00:00 AEDT (13:00 UT)
15 Dec at 23:00 AEDT (12:00 UT)
31 Dec at 22:00 AEDT (11:00 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.

DECEMBER HIGHLIGHTS

Mars is fascinating, being the only planet we can see surface features on. Dark and light regions betray the presence of mountains, valleys and plains. The best time to see it is at opposition. This happens on 8 December, when the planet reaches 17.1 arcseconds in diameter. Because Mars's day is 40 minutes longer than Earth's, if you observe at the same time each night, in five weeks you'll have seen the whole globe, although occasional dust storms may make it challenging!

STARS AND CONSTELLATIONS

This time of year may lack majestic winter Milky Way views, but there's no shortage of brilliant luminaries. High in the south are the somewhat isolated stars Achernar (in Eridanus) and Canopus (in Carina). Heading northward there is Sirius (in Canis Major) and Procyon (in Canis Minor), the alpha stars to Orion's hunting dogs. Orion himself contributes Betelgeuse and Rigel. Below the Hunter is Capella. That's seven of the top 10 brightest stars, all well-placed to see by late evening.

THE PLANETS

A banquet of planets this month! Twilight sees the return of Mercury and Venus, although Mercury's visit is short-lived. They are only 1.4° apart on 29 December, with Saturn higher up in the west, setting around 22:30 mid-month. Saturn is followed by Jupiter and Neptune, both retiring around midnight. Departing Uranus can be found due north around the end of twilight mid-month. With Mars at opposition you have all night to see it, with the planet transiting around midnight.

DEEP-SKY OBJECTS

This month, a trip to the Triangulum constellation. Starting at the triangle's 'point', 2nd-magnitude Alpha Trianguli, move 2.5° south-southwest to discover the galaxy NGC 672 (RA 01h 47.9m, dec. +27° 26'). This mag. +10.8 spiral stands out, with its bright halo (3.5'x1'), uniform brightness and small oval-shaped core orientated roughly east–west. Only 8 arcminutes southwest lies IC 1727. This spiral, at mag. +11.5, has a much fainter surface brightness, a smaller oval halo (1'x2.5') and tiny core, compared to NGC 672. The galaxies are orientated at a right angle. Only 0.6° southeast is the open cluster Collinder 21 (RA 01h 50.2m, dec. +27° 04'). This compact cluster (6 arcminutes across) is best observed at low power, with stars ranging from 8th to 12th magnitude, with the brightest dozen arranged in a 'C' shape. Can you get all three objects in the same field of view?

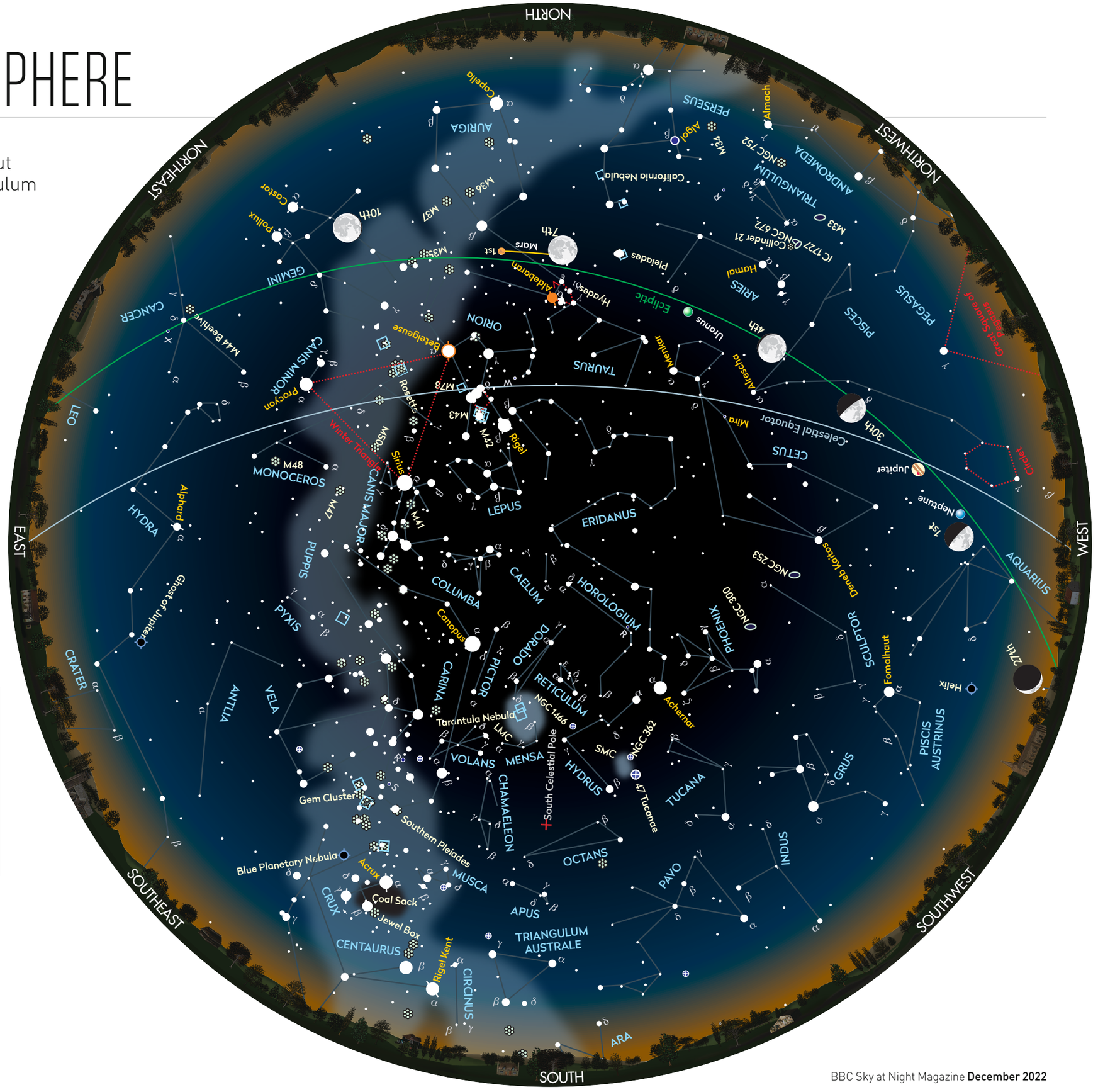

Chart key

- 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

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