APRIL ĀPERIRA SKY GUIDE

Virgo and Libra

Libra, the scales, is the only zodiac constellation represented by an object instead of a person or animal. This wasn't always the case: the ancient Greeks saw Libra as part of Scorpius, with the two brightest stars representing the scorpion's claws. The Romans, however, associated Virgo with balance as it was where the sun could be found during the autumnal equinox, when day and night were of equal lengths.

Once the association with Scorpius began to fade, an association with another adjacent zodiac, Virgo, started to grow. Virgo depicts a winged maiden holding an ear of grain (the star Spica). It is said to represent the goddess Dike who lived on Earth and ruled over human justice during a time of prosperity and peace. But when war erupted, Dike flew to the heavens, leaving Earth altogether.

Virgo is the second largest constellation in the sky, but is doesn't have a well-defined pattern, making it difficult to find. To locate it, face north and look high in the eastern sky for the bright star of Spica. The rest of Virgo extends north of Spica. To find Libra, look directly above the eastern horizon for Libra's two brightest stars, Zubenelgenubi and Zubeneschamali.

Virgo from Uranographia by Johannes Hevelius. PUBLIC DOMAIN

Sombrero Galaxy

Pictured on the front cover, the Sombrero galaxy is a spiral galaxy about 28 million light years away from Earth. We view this galaxy nearly edge-on, giving us a beautiful view of its bright core and surrounding dust tracks which make up the main structure and act as a site where new stars are made. The swirling dust holds nearly 2000 globular clusters (spherical groups of stars held together loosely by gravity), ten times more than we have in our Milky Way galaxy. Using X-ray emissions we can see a smaller dust disc that is slowly collapsing into the core – a black hole one billion times larger than our sun.

The Sombrero galaxy is located in Virgo and is part of the Virgo Supercluster, an area where many galaxies have begun to group together due to gravity. The way galaxies in superclusters interact with each other is one of the main arguments in favour of the existence of dark matter. Galaxies will seem to string between clusters, like beads on a necklace, suggesting these paths have a higher mass than surrounding areas, although it's a mass we're unable to see (called dark matter).

The Sombrero galaxy (highlighted in yellow on the star chart) is visible through binoculars or amateur telescopes. Look west from Virgo's brightest star, Spica, and stop just before the constellation of Corvus.

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THE SKY TONIGHT

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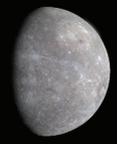
APRIL ĀPERIRA 2019

MOON MARAMA PHASES

Phase	Date
New moon	Friday 5 April
1st quarter	Saturday 13 April
Full moon	Friday 19 April
3rd quarter	Saturday 27 April

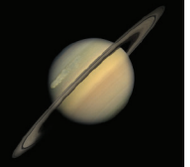
PLANETS WHETŪ AO

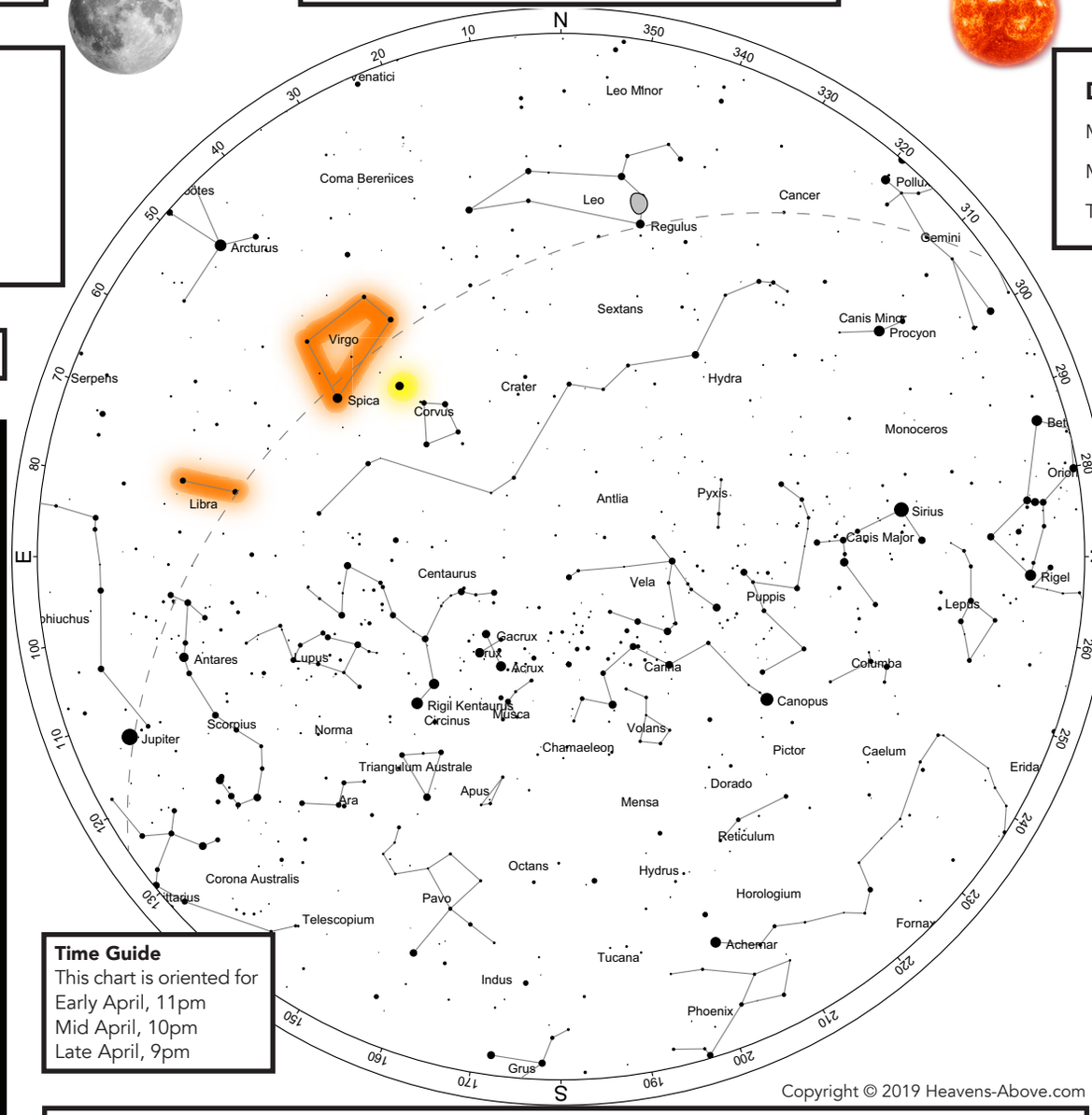
Venus
Meremere-tū-ahiahi
1 April after 4.38am
15 April after 4.08am
30 April after 4.41am
In Aquarius



Jupiter
Hine-i-tīweka
1 April after 10.52pm
15 April after 8.57pm
30 April after 7.56pm
In Ophiuchus

Saturn
Pareārau
1 April after 12.47am
15 April after 10.54pm
30 April after 9.56pm
In Sagittarius





Time Guide
This chart is oriented for
Early April, 11pm
Mid April, 10pm
Late April, 9pm

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How to use this chart: Hold the chart up to the sky and rotate it, so the direction you are looking matches the direction printed on the bottom. For example, if you are looking south, place "S" at the lower edge. Stars rise in the east and set in the west like the sun. As the Earth turns, the sky appears to rotate clockwise around the south celestial pole. The sky makes a small shift to the west every night, as the Earth rotates around the sun.

SUN RĀ RISE / SUNSET

Date	Rise	Set
Monday 1	7.54am	7.28am
Monday 15	7.13am	6.02am
Tuesday 30	7.32am	5.37am

HOW CONSTELLATIONS CAN BE USED AS A MAP OF THE SKY

If you were asked to describe Dunedin's position on a map there are a few ways you could go about it. You could give details of regions and landmarks: it's in Otago, on the coast near the Otago Peninsula. Or you could be very precise and use latitude and longitude: 45.8788°S, 170.5028°E.

Finding things in the sky works the same way. To describe the location of the Sombrero galaxy you could say that it's in Virgo, right by the border with Corvus. Or you could use right ascension and declination: 12h 39m 59.4s, −11° 37′ 23″ which are similar to latitude and longitude but require special equipment. When we don't have that equipment, we can use the 88 constellations and "landmarks" such as bright stars to find celestial objects. This is also useful for objects that move throughout the year, such as the planets.

- **Virgo and Libra**
- **Sombrero galaxy**