The September Night Sky

This month we celebrate the equinox, Spring in the southern hemisphere. Night and day are equal in length and the sun is directly above the equator on 23 September. The sun rises exactly in the west (earlier each day) and sets in the east (later each day).

Bright stars shine around the skyline. Ruawāhia Arcturus is in the northwest, setting early. Atutahi Canopus, the brightest star in the sky, skims along the southern skyline. Both stars are shining through a lot of air which makes them twinkle colourfully – Canopus shows all colours like a diamond, Arcturus twinkles red and green. Canopus is matched on the northern skyline by Whānui Vega, the second-brightest northern star after Arcturus. Near Vega is the Ring Nebula, the remnants of a dead star.

Rehua Antares, northwest of the zenith, marks the body of the Scorpion. It is called a red supergiant star and appears red-orange. The Scorpion's tail hooks toward the zenith like a back-to-front question mark. It is called Te Matau a Maui / the fishhook of Maui. Below or right of the Scorpion's tail is 'the teapot' made by the brightest stars of Kaikōpere Sagittarius – upside down.

Midway down the southwest sky are 'The Pointers ', Ranginui Beta and Uruao Alpha Centauri. They point down to Māhutonga Cruxthe Southern Cross. Alpha Centauri is the third brightest star and our 2nd closest star (after the sun), 4.3 light- years away. Alpha Centauri is actually 3 stars and has an exoplanet orbiting one of them. Beta Centauri is a blue-giant star hundreds of light-years away.

Māhutonga is seen year-round in NZ so it is called a circumpolar star. The pointers, Achernar and the Magellanic clouds are also circumpolar.

Above and right of Saturn is the medium-brightness starŌtamarākau Fomalhaut, marking the Southern Fish. Further right, in the southeast, is Marereotonga Achernar. It is the same brightness as Saturn and the third brightest of the stars in the south after Canopus and Alpha Centauri.

Te Māngōroa the Milky Way spans the sky from north to south, an edgewise view of our galaxy. It is brightest and broadest overhead in Scorpius and Sagittarius. In a dark sky it can be traced down past the Pointers and Crux into the southwest, meeting the skyline right of Vega.

Ngā Pātari the Large and Small Clouds of Magellan, **LMC** and **SMC**, look like two misty patches of light in the south sky. They are easily seen by eye on a dark moonless night – small galaxies.

On moonless evenings in a dark sky the Zodiacal Light is visible in the west. It appears as a faint broad column of light extending up past Venus and Spica and toward Antares. It is sunlight reflecting off meteoric dust in the plane of the solar system.

VISIBLE PLANETS

The planets rise in the east and set in the west, along the plane of the ecliptic. Some planets are visible in the morning sky, others are in the evening sky, and still others are too close to the sun to see at all.

Whiro Mercury: Not visible at this time of year

Kōpū Venus: The brilliant ‘evening star’, appears in the west soon after sunset. It sets around 8 pm at the beginning of the month and around 10 pm at the end. The Moon will be close to Venus on the 5th .

Matawhero Mars: Mars rises about an hour after Jupiter, early in the morning. It looks like a medium-bright orange star. The Moon will be below Mars on the 26th .

Kōpūnui Jupiter: Visible in the morning sky, Jupiter rises after 2 a.m. at the beginning of the month and around 1:20 at the end. By dawn it is in the north, the brightest ‘star’ in the morning sky. It shines with a steady golden light. Moon will be below Jupiter on the 24th.

Rongo Saturn: The other planet visible in the evening sky, Saturn looks like a medium-bright star midway up in the east. Any telescope will show the planet and its ring. The ring is nearly edge-on, so Saturn looks like a ball with a spike through it. Saturn is at its closest for this year: 1,300 million km away. The Moon will be near Saturn on the evening of the 17th.

Sources: <https://www.rasnz.org.nz/in-the-sky/the-evening-sky/september-evening-sky-1>

<https://milky-way.kiwi/september/> Star groups and single stars are coloured at 1st mention