The November Night Sky

Takurua Sirius, the brightest true star, rises a little south of due east – by the end of the month it is up at sunset. Atutahi Canopus, the second-brightest star, is in the southeast. Both stars twinkle brightly.

Left of Sirius is the constellation of Orion, with 'The Pot' at its centre. Puanga Rigel, a bluish supergiant star, is directly above the line of three stars; orange Pūtara Betelgeuse, a red-giant star, is below.

Left again is orange Taumatakuku Aldebaran. It is at one tip of a triangular group called Matamata kāheru Hyades cluster. These 2 make the upside-down face of Taurus the bull. Still further left is the Matariki Pleiades star cluster. Six stars are visible to most eyes but dozens are seen in binoculars.

In the evenings, west of southwest, the constellation Scorpius plunges headfirst into the horizon. Later in the month only the Te tauihi tail remains, faint in the twilight. Orange Antares, the scorpion’s heart, is seen to Mercury’s left mid-month.

Te Māngōroa the Milky Way is low in the sky, visible around the horizon from the northwest, through south into the eastern sky. The broadest, brightest part is in Kaikōpere Sagittarius, to the right of the Scorpion's sting. We see the Milky Way edgewise, this pancake of billions of stars of which the Sun is just one.

Low in the south are the Pointers, Ranginui Beta and Hakihea Alpha Centauri, and Māhutonga Crux the Southern Cross, now upside down. In some Māori star lore the bright southern Te Māngōroa Milky Way makes the canoe of Maui with Māhutonga Crux being the canoe's anchor hanging off the side. In this picture Te Tauihi Scorpion’s tail is the canoe's prow and Ngā Pātari the Clouds of Magellan are the sails. Hakihea Alpha Centauri is the closest naked-eye star; 4.3 light-years away.

Ngā Pātari the Clouds of Magellan, (LMC and SMC), high in the southern sky, are two small galaxies easily seen by eye on a dark moonless night.

Andromeda Galaxy is very low in the north, easily seen in binoculars in a dark sky, and faintly visible to the eye as a spindle of light. It is similar to Te Māngōroa and nearly three million light years away.

November hosts the annual Leonids meteor shower which this year peak at 3-6am on the 19th. The shower is called Leonids because its radiant, or the point in the sky where the meteors seem to emerge from, lies in the constellation Leo. The Leonids occur when the Earth passes through the debris left by Comet Tempel-Tuttle, which orbits the sun once every 33 years.

**Whiro MERCURY:** The planetstarts to emerge from the brightness of the sun, setting in the southwest shortly after sunset. Whiro is the brightest ‘star’ in that part of the sky, with the thin crescent Marama Moon below it on the 14th.

**Kōpū VENUS:** Venus is the bright ‘morning star’ before dawn in the east to north-eastern sky. It will rise with the crescent Moon about 4:30 a.m. on the 10th. This planet has phases like our moon and will be 2/3 illuminated in late November. Marama the Moon will be left of Kōpū Venus on the morning of the 9th.

**Matawhero MARS: This planet is** difficult to see as it slips further into the glare of the setting Sun.

**Kōpūnui JUPITER: T**he 'evening star', appears in the northeast soon after sunset and is visible throughout the night. On the 3rd the planet is at opposition, an ideal time for late night viewing, being at its closest approach for this cycle. Marama the Moon is close by on the 25th.

**Rongo SATURN:** This pale yellow orb is high in the mid-evening north-eastern sky (higher than Jupiter) and great for viewing. The rings are seen side-on and its moon Titan is also visible in a strong telescope. A bright Marama Moon is close-by around 2 a.m. on the 21st.

Adapted from notes by Alan Gilmore, Mt John Observatory and <https://www.stardome.org.nz/star-charts--sky-spotter>