The December Night Sky

Star groups and single stars are coloured at 1st mention

This month there are two planets bright enough to be called ‘evening stars’ on opposite sides of the sky, Venus in the west and Jupiter in the northeast.

Takurua Sirius, the brightest true star, twinkles colourfully low in the east. Atutahi Canopus, the second brightest, is a bit higher in the southeast. Almost overhead is Marere-o-Tonga Achernar. Left of Sirius is the constellation of Orion**.** Bluish Puanga Rigel and orange Pūtara Betelgeuse are Orion’s brightest stars. Between them is the line of three stars making Tautoru Orion’s belt, commonly known as the bottom of 'The Pot' in our southern hemisphere view. A faint line of stars above the bright three is the Pot's handle. At its centre is the Orion Nebula, a glowing gas cloud nicely seen in binoculars.

Left of Orion and just above Jupiter is a triangular group making the upside-down face of Taurus the bull. Orange Taumatakuku Aldebaran, at one tip of the V shape, is one eye of Taurus. The other stars on and around the V are Te Kōkotoa the Hyades cluster. Aldebaran is not a member of the cluster but closer and on the line-of-sight. Further left is the cluster known as Matariki or the Pleiades, a tight grouping of six naked-eye stars. Many more stars are seen in binoculars.

Low in the south are the Pointers, Ranginui Beta Centauri and Hakihea Alpha Centauri, and Māhutonga Crux the Southern Cross, upside down at this time of the year. Te Ikaroa, the Milky Way is wrapped around the horizon. The broadest part islow in the southwest. It narrows toward Crux in the south and becomes faint in the east below Orion.

Ngā Pātari the Clouds of Magellan, Larger and Smaller, high in the southern sky, are two small galaxies about 180 000 light-years away. They are easily seen by eye on a dark moonless night as misty patches of light.

The Great Square of Pegasus spans the lower northern sky. Just below and to the right is the Andromeda Galaxy very low in the sky. In binoculars in a dark sky this galaxy looks like a spindle of light, but it’s actually a bit bigger than our Milky Way Galaxy and nearly three million light-years away.

Visible planets all rise in the east & set in the west:

WHIRO MERCURY appears in the southeast dawn sky mid-month, rising an hour before the Sun. It rises 80 minutes before the Sun at the end of the month. Mercury is the brightest object in that part of the sky.

KŌPŪ VENUS appears in the west as the ‘evening star’ soon after sunset and sets in the southwest around midnight, a brilliant object in the dark night sky. Venus is bright enough to see in daylight if you can get your eyes focused on infinity. On December 5th the Moon will be just above & to the right of Venus, due north of the zenith at 5pm.

MATAWHERO MARS: Mars rises in the northeast around 1 a.m. at the beginning of the month and 11 p.m. at the end. Mars will be at its closest next month, just under 100 million km away. This bright orange red ‘star’ is small in a telescope. The Moon will be close to Mars on the morning of the 19th.

KŌPŪNUI JUPITER rises after Venus, in the northeast as a second evening ‘star’. The planet crosses the north sky through the night, setting in the northwest around dawn. Any telescope will show Jupiter’s ‘Galilean’ moons, but not all four every night as they cross in front of and behind Jupiter.

RONGO SATURN is midway down the north western sky at dusk. It sets due west around midnight. It looks like a medium-bright cream-coloured star. The Moon will be very close to Saturn on the 8th. A small telescope will show the disk of Saturn – the ring is becoming edge-on so it looks like a spike through the planet.

Refs

Notes from Alan Gilmore at Mt St John observatory

<http://www.pixieplots.co.nz/Maori-Star-Names>