

Star watching on Waiheke

Our monthly star watching column highlights celestial objects accessible for naked eye or small binocular viewing. Nalayini Davies will shine a spotlight on a different celestial object each month and explain terminology to improve your enjoyment of astronomy.

As another month passes, the Earth's orbit of the Sun causes the night sky to change again. The Milky Way is nearly overhead while new stars appear in the east and bring new constellations into prominence.

In May, with the Milky Way taking centre stage, Jupiter remains the brightest object in the sky (after the Moon). Many of the bright stars we have seen in March and April are still in the sky and Saturn rises brightly in the southeast.

Our spotlight this month will be on the Milky Way which is at its brightest during our winter months. Many delightful star clusters embedded in the Milky Way are visible through binoculars and telescopes but there is much to be enjoyed observing with the naked-eye.

When is the best time for viewing?

Astronomical twilight now ends around 7pm. As we are viewing the sky from Waiheke, which is a dark location, almost all objects discussed here can be seen on any clear night. However, the nights from 19 May to new moon (i.e. no moon) on 26 May will be free of moonlight and so will offer the very best viewing.

Star chart

The celestial objects easily visible this month are shown in the accompanying star chart. When you go outside, raise this page over your head with north pointing to the north and you will find the chart points to the correct directions.

Planets

Jupiter remains the brightest object in the sky this month (except when the Moon is up) rising from the northeast soon after sunset. Saturn appears like a bright star and rises in the southeast below Antares, the brightest star in Scorpius.

Constellations

Crux (the Southern Cross) and Orion, featured in previous months, and S-shaped Scorpius, introduced last month, are all still in the sky along with Centaurus which contains the Pointers, Alpha Centauri and Beta Centauri. All these constellations appear to reside within the Milky Way discussed below as this month's spotlight.

Bright stars

The stars introduced in previous months, Sirius (the brightest object in the sky after the Moon and Jupiter); Canopus; the Pointers Alpha Centauri and Beta Centauri; Rigel and Betelgeuse in Orion; and Antares in Scorpius are all still in our sky. Other easily identifiable naked-eye stars this month include Spica, the brightest star in constellation Virgo and is the bright star close to Jupiter, and Acturus, the brightest star low in the northern sky.

May spotlight

Most of us are familiar with the Milky Way (our galaxy), the hazy band of white light studded with stars. Regrettably, the Milky Way is no longer visible to more than one third of humanity, 60 percent of Europeans and 80 percent of North Americans, because of light



The milky Way galaxy. Image supplied by NASA

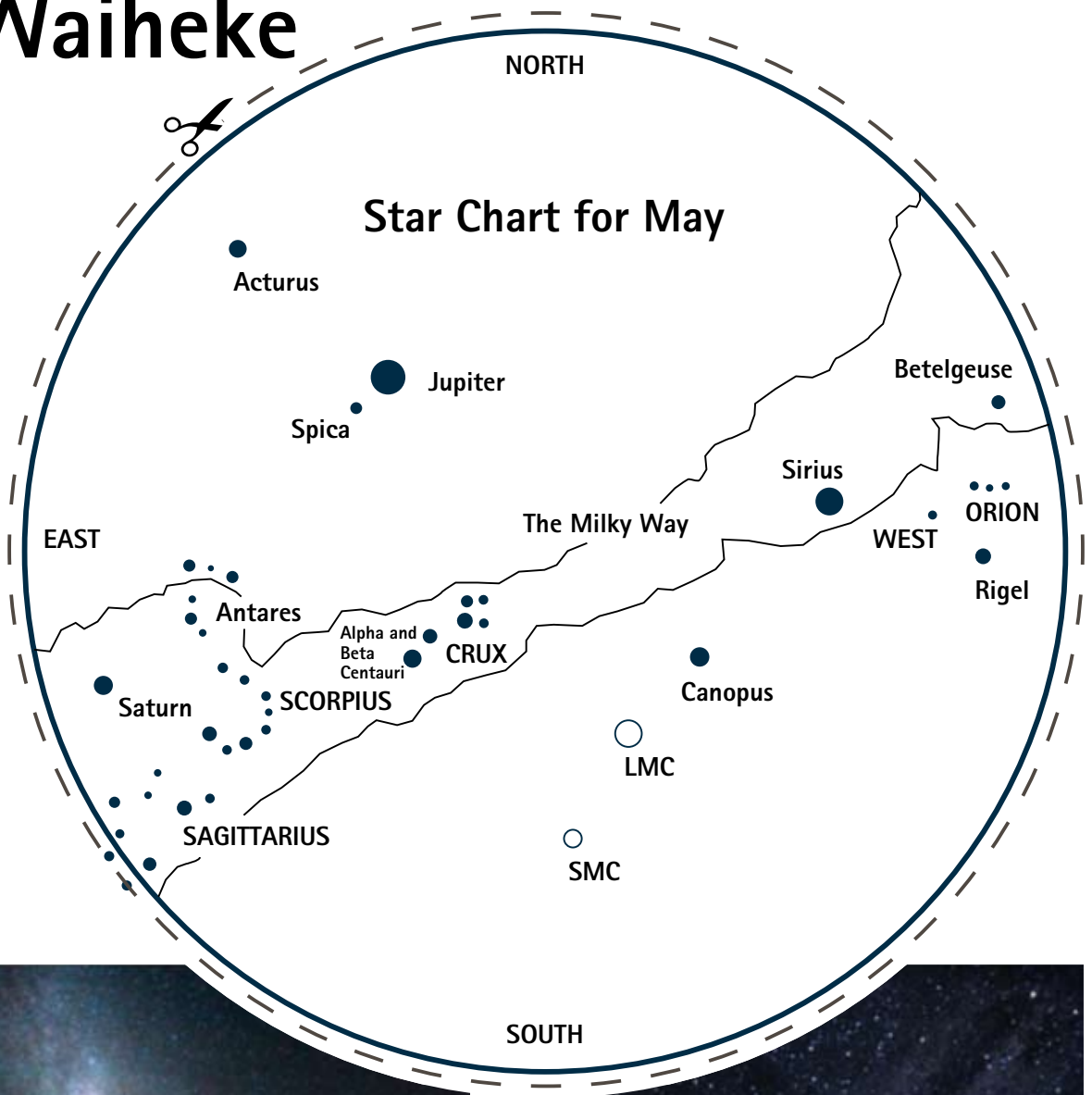


Photo Blair Quax

Milky Way over the Great Barrier Island.

pollution. However, it is clearly visible from Waiheke and Great Barrier islands (see Images 1 and 2) apart from any light polluted areas of commercial activity or dense population.

Images 1 and 2 are long-exposure pictures taken by cameras with lenses more powerful than the human eye and hence show more detail than can be seen when naked-eye observing.

Our view of the Milky Way, contains 30 of the 88 constellations in the sky including Crux (the Southern Cross). Just below Scorpius is the constellation Sagittarius (to be introduced as the year progresses, when it comes into proper view) which points to the direction of the centre of the Milky Way.

Every star in the sky, indeed everything we see in our skies with naked-eye observing, is located within the Milky Way except for the two dwarf, satellite galaxies of the Milky Way, the Large Magellanic Cloud (the LMC) and the Small Magellanic Cloud (the SMC). From New Zealand, the LMC and SMC are naked-eye objects on moonless nights, appearing as unmoving, fuzzy little clouds seen as rotating around the south celestial pole as the year progresses. We will be taking a closer look at them another time. The vastness of the Universe is mind boggling. The Milky Way, our home galaxy, is one of over 200 billion galaxies and contains over 100 billion stars of which the Sun is one. From the Earth, situated on the Orion Spur of the barred-spiral Milky Way galaxy (pictured left), what we see in the sky is an edge on view of the Milky Way's galactic plane as it spins at a rate of 225 km per second, travelling through space at a rate of 305 km per second and taking us all with it.

May is a good month for naked-eye observing as starwatching can begin early and the night sky is rich with bright planets, stars



Photo Agustin de la Parra – Night Shift Waiheke Stargazing Facebook Group

Milky Way from Onetangi Sports Park.

and constellations. As Waiheke is fortunate to still have dark skies above, you can enjoy the wonders of our Universe by simply stepping outside and looking up.

Clear Skies! ■



Nalayini is a member of the Royal New Zealand Astronomical Society and the Auckland Astronomical Society. She is Chairperson of Astronz, which was established to make astronomy more accessible to New Zealanders. Nalayini is an advocate of the Dark-Sky movement, a campaign to preserve sky quality and increase the visibility of stars through reducing light pollution. Nalayini has had a home in Rocky Bay for 30 years and continues to enjoy the dark skies on Waiheke.