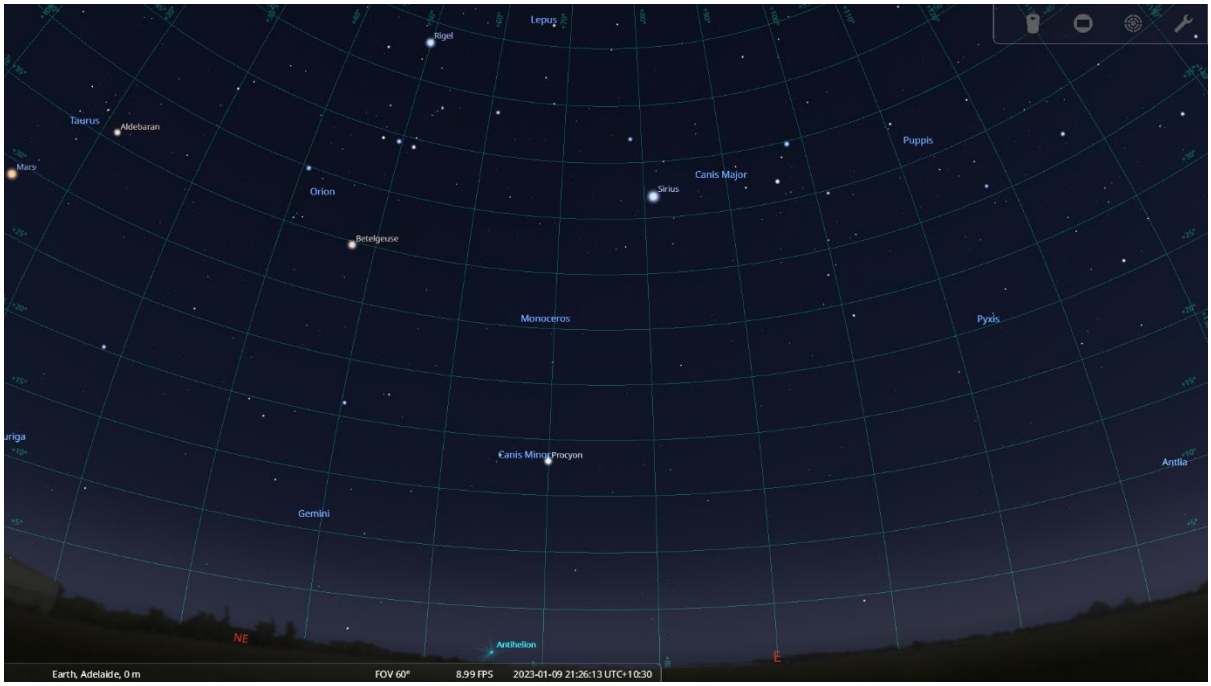
Canis Major (CMa)

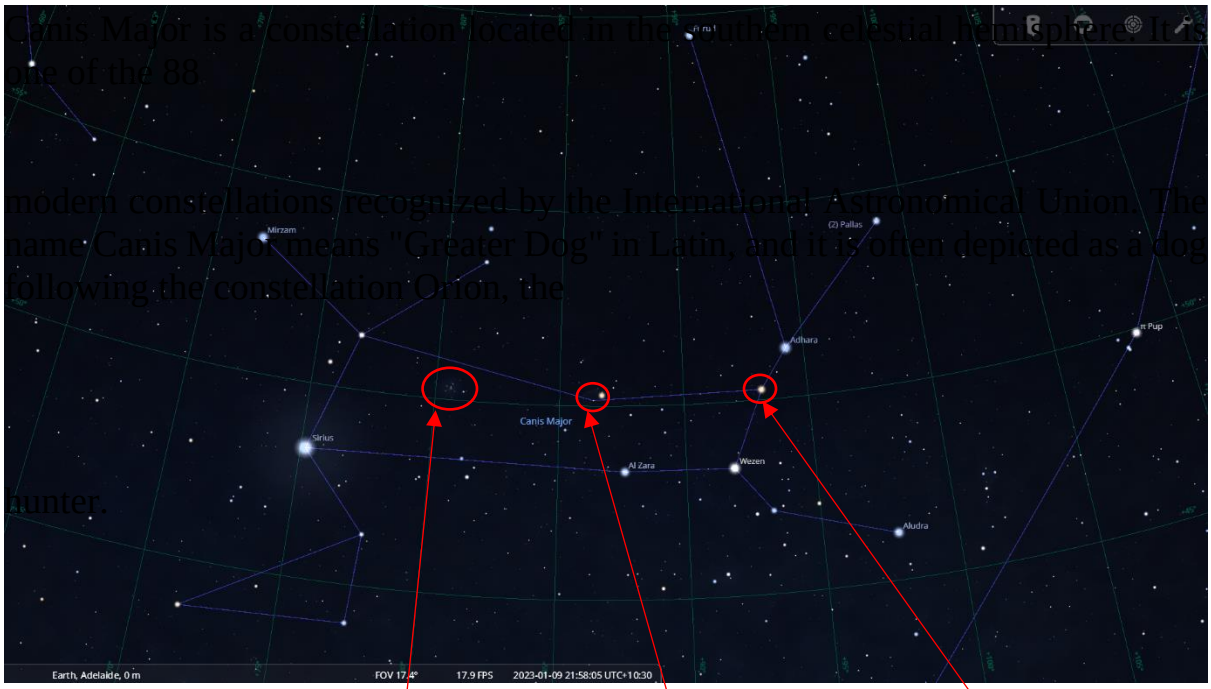
Every month I will give some details on one of the major constellations that is high in the night sky within that period. We will start the new year with Canis Major, which signifies the start of summer. Canis Major is the Latin name, which translates to Big Dog. There are 162 stars that can be seen within the constellation on a good viewing night, but the latest satellite sweep scanned 1371 stars.

Sirius is the brightest star in the night sky and is easy to spot in the eastern sky, just to right of Orion.



The most notable star in Canis Major is Sirius, also known as the "Dog Star." Sirius is the brightest star in the night sky and is actually a binary star system consisting of a white main-sequence star and a faint white dwarf companion, Sirius is derived from the Greek work Seirios which means glowing. It is bright because it is one of our nearest neighbours, at 8.2 light years (ly) away, and it is about twice the mass of our sun, and twenty five times more luminous. The path Sirius follows takes 365.25 days to complete, almost identical to the solar year, meaning that it is always in the same place from one year to another. In Australia it rises high in January, in Southern Europe it is high in the night sky in July. Earlier in summer or late spring, when the weather changes frequently, the stars twinkle more, and, as Sirius is the brightest star it seems to twinkle the most. In ancient Greece, people who were behaving oddly in this period of changeable weather were said to be star struck. The days later in summer were the twinkling diminished and the weather was hot were called dog days.

Canis Major is a constellation located in the southern celestial hemisphere. It is one of the 88 modern constellations recognized by the International Astronomical Union. The name Canis Major means "Greater Dog" in Latin, and it is often depicted as a dog following the constellation Orion, the hunter.



HIP 33165

Unurgunite

Beehive Cluster.

One of the interesting things about Canis Major is the vast range in distances between stars in the constellation, I have listed them in the table below:

Name	**Distance (ly)**	**Type of Star**	**Other Information**
Adhara	430	Binary	4.7 million years ago this star was the brightest star in the night sky, and was only 34 light years away. No star is expected to be as bright in the night sky for the next 5 million years or so. It is also one of the brightest known sources of ultraviolet.
Wezen	1800	Yellow Supergiant	The fact it is a yellow supergiant means that it will eventually become a red supergiant before going supernova. Wezen is estimated to be 10 million years old, which means it is fairly close to becoming a red supergiant, probably within the next 100 000 years.

Mirzam	500	Cepheid variable	A cephid variable is a star that pulsates at a defined frequency. We use these as standard candles to measure stellar distances accurately.
Aludra	3000	Blue Supergiant	Approaching the end of its lifecycle. Expected to become a supernova within the next few million years.

The furthest star in the Canis Major is catalogued as HIP 34074 and is 326163 light years away.

The beehive cluster is visible with the naked eyes and you will get good details from a pair of binoculars. It was discovered in 260 BC by Aratos, it is an open cluster of about 100 stars, and is roughly 25 ly across. The cluster is approximately 2300 ly away and roughly 200 million years old.

The last thing to look at with a telescope on a very dark night is HIP33165, which is an eruptive star, if it is very dark, and you have a large diameter telescope, you may see a faint cloud surrounding the star, this is the material that the star has ejected.

Throughout Australia the traditional story is centred around the star Unurgunite, which is the traditional name given to the star from the Boorong people of Northwest Victoria, but now officially recognised by the International Astronomical Union. However, the story is essentially that Unurgunite is the husband who has two wives which are the stars Wezen and Adhara. There was a fourth star who is a quoll (Mityan) in the Boorong story, Mityan tries to lure Wezen away from Unurgunite, and a battle ensues, which ends up with Mityan being cast out and becoming the moon. Wezen is consequently further away from Unurgunite. Occasionally the moon will now pass over Wezen, trying to draw her away from Unurgunite. The moon also passes in front of Unurgunite from time to time symbolising their battle, but the moon never passes in front of Adhara, the second wife.

I hope this has been useful, and when you look at the night sky you should be able to see Sirius and the constellation.

References:

All images are from the Stellarium app.

Canis Major - Wikipedia

The stories behind Aboriginal star names now recognised by the world's astronomical body (theconversation.com)

Canis Major Constellation Facts, Star Map and Myth of The Big Dog - Universe Guide

Canis Major: Stars, Myth, Facts, Location, Deep Sky Objects – Constellation Guide (constellation-guide.com)