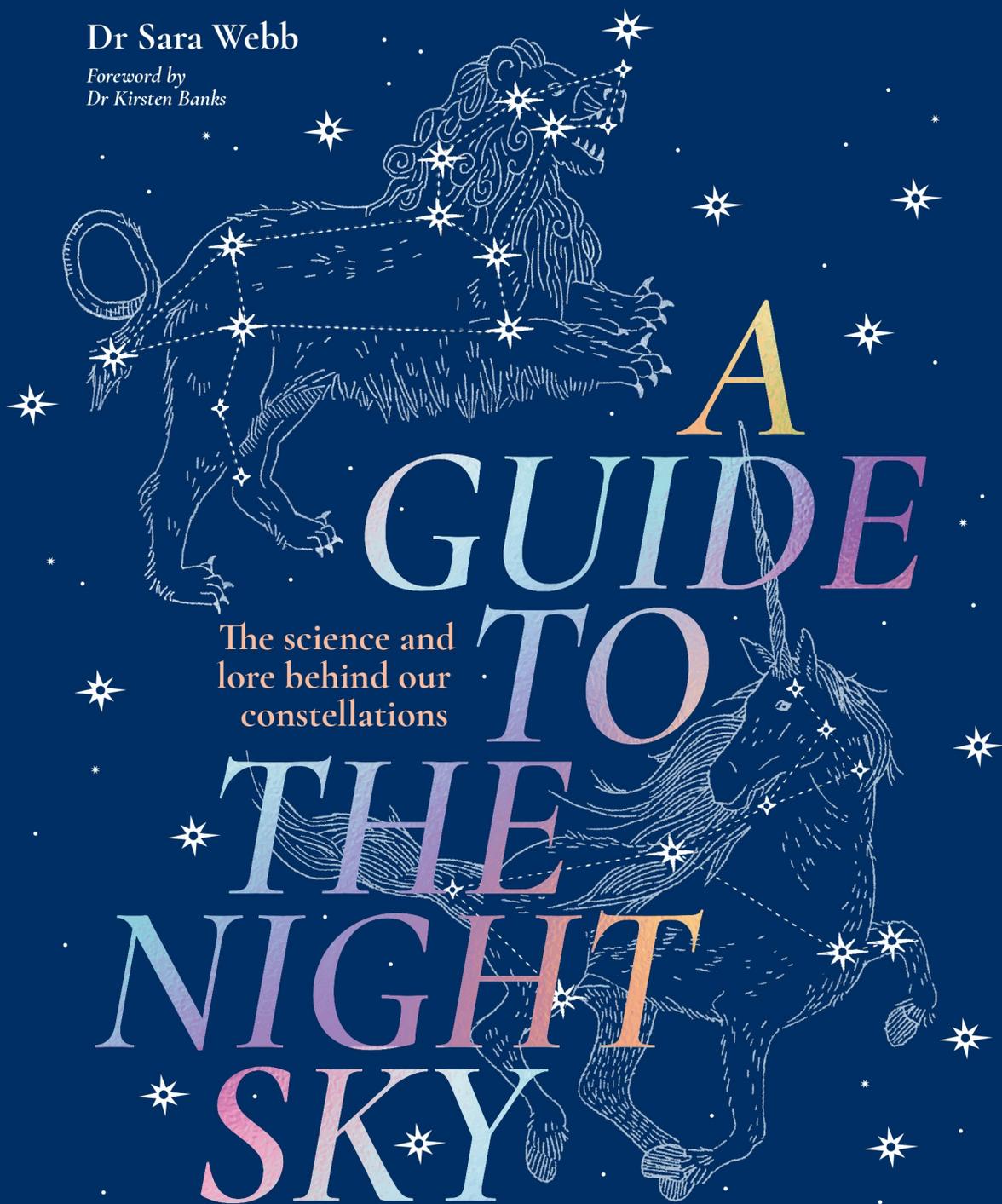


Dr Sara Webb

Foreword by
Dr Kirsten Banks



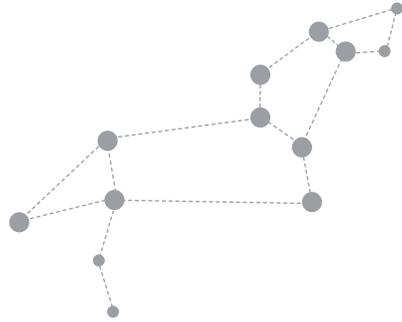
The science and
lore behind our
constellations

A GUIDE TO THE NIGHT SKY

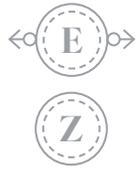
ILLUSTRATIONS BY
Aidan Meighan

LEO

The Lion



Lore



- In Greek mythology, this constellation represents an epic battle between a lion and the great hero Heracles, the son of Zeus and Alcmene. The legend goes that Heracles was tasked by his cousin Eurystheus to slay a man-eating lion that was terrorising the countryside. He spotted the lion but his arrows were not effective, so Heracles followed the lion back to its den. He sealed one of the entrances to the den with a rolling stone and entered the other, eventually succeeding in slaying the lion. Zeus put the lion in the sky to honour his son's victory.

How to see it

- ◆ Leo is an equatorial constellation, visible at latitudes between $+90^\circ$ and -65° and best viewed in April. The easiest way to locate it is to look for a back-to-front question mark, or sickle-like shape, made from the brightest stars in the constellation. This is the head of the lion.

Deep-sky objects

- There are many unique galaxies in Leo. Three notable galaxies near the back legs of the lion shape are M66, M65 and NGC 3628.

Brightest star

- * The brightest star in Leo, Regulus, represents the Lion's heart. Regulus appears as a single star, but is actually a quadruple star system, composed of two pairs of binary stars. The largest star in this system is 3.4 times the mass of the Sun and 314 times more luminous than the Sun too.

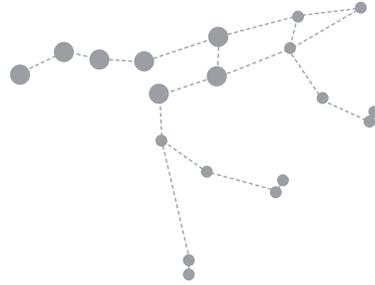
Area and main stars

- ▮ 947 square degrees with 9 main stars



URSA MAJOR

The Great Bear



Lore

- Ursa Major is associated with the myth of Hera, the wife of Zeus. Zeus cheated on Hera with Callisto, who bore him a son named Arcas. When Hera learned of Zeus's infidelity, she changed Callisto into the ugliest animal she could think of – a bear with shaggy fur, long teeth and claws. Callisto, unable to convince the townspeople who she really was, was banished to roam the forests.

How to see it

- ✦ Ursa Major is a northern constellation, visible at latitudes between $+90^\circ$ and -30° and best viewed in April. It is home to the unofficial but popular asterism the Big Dipper, which makes it easy to find. The bear's tail contains three of the seven bright stars associated with the Big Dipper. The four stars that make up the Big Dipper's bowl form the backside and back leg of the bear.

Deep-sky objects

- Several nearby galaxies can be seen in this region. One stargazing favourite is the Pinwheel Galaxy (M101). This galaxy is almost twice the radial size of our Milky Way and has more than 2 trillion stars.

Brightest star

- * Epsilon Ursae Majoris, or Alioth, appears along the tail of the bear. It is an A-type dwarf that is 2.9 times the mass of the Sun. For a long time, it was suspected to be two stars in a binary star system. However, further studies have not revealed a stellar companion, but do now suggest there might be a substellar object in orbit around Alioth.

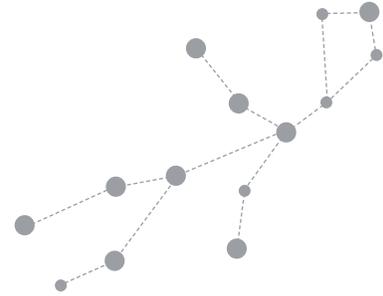
Area and main stars

- ▮ 1280 square degrees with 7 main stars

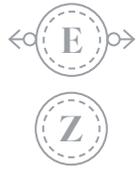


VIRGO

The Maiden



Lore



- Virgo is often depicted as a woman holding a sheaf of wheat in her left hand. This refers to the Greek myth of Demeter, the goddess of agriculture. The legend tells of the kidnapping of Demeter's daughter, Persephone, by Hades, who wanted her to be his wife. Demeter was very unhappy about this, and refused to allow any crops to grow until a deal was struck. Persephone would spend six months of the year with her mother in Olympus and the remaining six months with Hades. The olive branch in Virgo's right hand comes from the myth of Astraea, and her promotion of peace and justice on Earth when other gods had fled back to the heavens.

How to see it

- ◆ Virgo is an equatorial constellation, visible at latitudes between $+80^\circ$ and -80° and best viewed in May. First, locate Leo (p. 74). Virgo's head begins to form next to the lion's tail.

Deep-sky objects

- Virgo is a fascinating region of the sky for stargazers, with more than thirty local galaxies visible. The Sombrero Galaxy (NGC 4594) is worth a look. Another galaxy easily seen through large binoculars is NGC 4579.

Brightest star

- * Spica appears as one star to the naked eye, but a telescope reveals that it is a binary star system. Its two stars orbit each other so closely that they look like one oval shape. They can only be separated by looking at the intensity of light they emit.

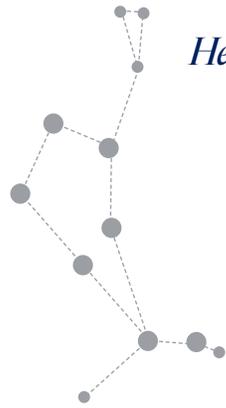
Area and main stars

- ▮ 1294 square degrees with 9 main stars



BOÖTES

*The
Herdsman*



Lore

- Boötes is said to have been placed in the sky by Dionysus to commemorate the tragic story of Icarus. Dionysus taught Icarus how to make wine from grapes. After a night of drinking his wine, some shepherds awoke with hangovers. They thought Icarus had tried to poison them and, in a rage, they killed him.

How to see it

- ◆ Boötes is a northern constellation, visible at latitudes between +90° and -50° and best viewed in June. It only has two bright stars, but they are both distinctive and easy to spot. The bright red star Arcturus is the fourth-brightest star in the sky. The other bright star is Izar. Arcturus and Izar are in the lower part of the constellation. The body of the herdsman is formed by six stars arranged in a diamond or kite shape. Arcturus is at the base of the kite.

Deep-sky objects

- There are very few objects in this region that can be seen without large telescopes. One reason for this is the Boötes Void, which is an area of the sky that is devoid of galaxies and over 250 million light-years across.

Brightest star

- * Although Arcturus is about the same mass as the Sun, its radius is 25 times larger and it is 170 times more luminous. It is culturally significant across the history of human civilisation, from Ancient Mesopotamians to Aboriginal and Torres Strait Island Peoples. The Worjbaluk people of south-east Australia know Marpeankurrk (Arcturus) as the mother of Djuit (Antares). Its appearance in the sky signals the arrival of the wood ant larvae, an important food source.

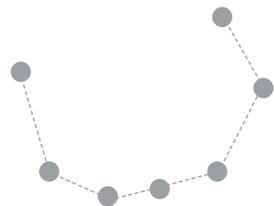
Area and main stars

- ▮ 907 square degrees with 7 main stars



CORONA BOREALIS

The Northern Crown



Lore

- Corona Borealis is often associated with the Greek myth of Ariadne, a princess of Crete. Ariadne is most famous for helping Theseus defeat the Minotaur, which was locked inside a labyrinth. The couple sailed to the island of Naxos, where Theseus abandoned Ariadne. The god Dionysus found the princess weeping alone and fell in love with her. When they were married, Ariadne wore a crown made by Hephaestus. She threw it into the sky and the gems became stars.

How to see it

- ◆ Corona Borealis is a northern constellation, visible at latitudes between +90° and -50° and best viewed in June. Find the bright red star Arcturus in Boötes (p. 32). To the left of Boötes, you will see three bright stars in a line that form part of the crown. The full crown is as a U-shape made up of seven stars sitting closely together. The brightest of these stars, known as Gemma or Alphecca, is in the middle.

Deep-sky objects

- Two notable galaxies are visible in Corona Borealis: the spiral galaxy NGC 6085 and the elliptical galaxy NGC 6086.

Brightest star

- * Alpha Coronae Borealis is a binary star system that is visible to the naked eye. The two stars are 2.58 and 0.92 times the mass of the Sun. The larger star is suspected to still have a large disk of dust around it, based on observations made using infrared radiation.

Area and main stars

- ▮ 179 square degrees with 7 main stars

