



The southern queen's Crown

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Image source: Stellarium

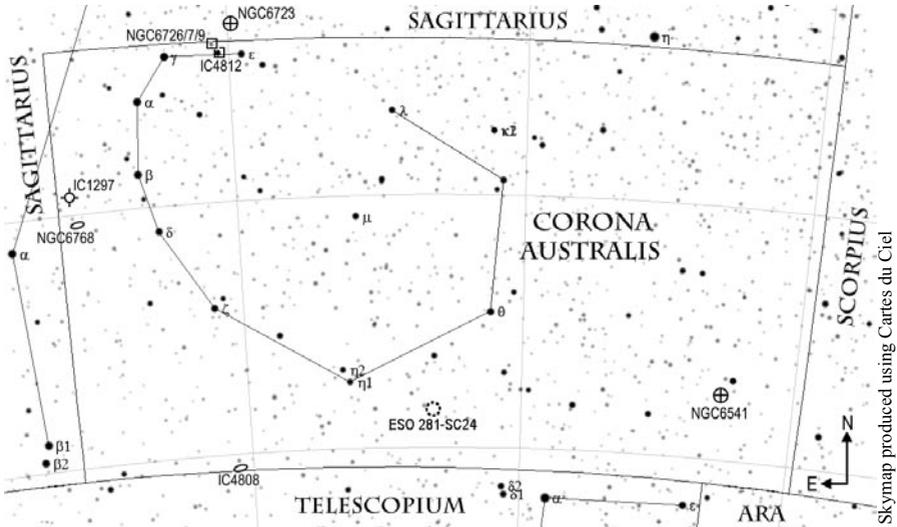
Corona Australis is a constellation that is not only very special in terms of its shape, but also deserves to be treated with the necessary respect. The constellation, which truly does resemble a crown of glory, is located just off the south-western region of Sagittarius, sometimes described as the “Queen’s teapot in star form”. When Corona Australis appears to be suspended from the Milky Way during winter, I cannot help thinking about the English royalty. The starry heavens possess an abundance of sparkling jewels and Corona Australis is truly a jewellery box *par excellence*. Nor have the northern skies been neglected in this department where they boast their own crown, which, of course, we know as Corona Borealis.

Corona Australis was included as one of the original 48 constellations in the Ptolemy catalogue. German speakers call the constellation Südliche Krone, in contrast with the Chinese, who see the stars as forming a Tortoise, or Peé. The constellation, which is shaped like a halfmoon, has also been referred to as a woman’s tent, or travelling apartment, and even an ostrich nest. Be that as it may, this constellation is very special.

Let us explore its sparkling jewels one by one.

In the furthest southwestern part of the constellation we find the exceptional globular cluster **NGC 6541** which is situated only about 5.5 degrees due east of θ Scorpii (a naked-eye double star). It is a beautiful object, packed with various-magnitude stars which grow into a very condensed, wide, bright core. The outskirts of the globular reveal pinpoint shimmering gem-stars spraying out away into the field of view. The stars in the southern part seem denser in comparison with those in the NW, which give an impression of flowing away into the field of view. With care and higher power (218x) one can observe dark lanes becoming visible randomly around the edges between the short star outliers. Averted vision does justice to this globular cluster, which is surrounded by a brilliant, busy star-field. Someone has very appropriately referred to this globular cluster as a spider’s cocoon nest. The conspicuous 8-magnitude variable star V712 CrA is situated only 15’ towards the NW of this outstanding globular cluster.

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Corona Australis's starry crown also, appropriately, has as its focus a precious stone. η Coronae Australis, which is located relatively centrally within the Crown, exhibiting two brilliant-white stars of magnitude 5.1 and 5.5 which can be seen with the naked eye in dark conditions.

Star clusters are among the most exceptional deep-sky objects and appear in a variety of shapes and sizes.

ESO 281-SC24, the only open cluster I could find in the constellation, is only 1.6 degrees SW of η Coronae Australis. The uniqueness of this grouping never fails to amaze me – a nice, stringy star group, with the five 10–11-magnitude stars as the focus in a slightly NE-SW direction. The brighter dull yellow magnitude 9, GSC 7914 178 1 is situated on the far

SW end of the cluster. Fainter stars can be glimpsed among the brighter ones, extending to the NW. In a wide field of view this grouping is quite outstanding with the yellow magnitude 7.3, HD 1721 44 situated 6' E of the grouping.

Precious stones are created and nurtured deep inside the earth's crust. When these precious stones are mined, their preciousness and sparkling appearance astound us. My farm observatory is situated in the mineral-rich northern landscape of South Africa. Believe me, during my nocturnal exploration of the heavens I not only look up at the wonderful starry skies but also continually scratch around in the stone-strewn veld in search of shiny stones. Crowns, which are so well-endowed with precious stones, are probably among the most valuable and beautiful items of



NGC 6726/7 close together at the top and IC 4812 at the bottom. Adjacent, left is the tiny variable nebula, NGC 6729.

Picture credit: Gerald Themann and Michael Jager.

jewellery. But pity the poor regent who has to carry a crown on his or her head! Been thinking now of the queen of England's Imperial State Crown, weighing almost 2.2 kg, which she has to wear during her ceremonial speeches to the assembled Houses of Parliament. However, nowhere near such heavy going is the exploration of our own sparkling crown constellation Corona Australis with its splendid sparkling jewels.

In the NW of Corona Australis we find the beautiful twin star κ **Coronae Aus-**

tralis, two brilliant white diamonds of magnitude 5.9 and 6.6 with a separation of 21.4' and PA 359. John Herschel discovered this beautiful double star in 1836. The primary (kappa 2 with 5.9 magnitude) appears slightly blue-white compared with the companion (6.6 magnitude), which appears white-yellow in composition. A nice string of five faint 10-magnitude stars curves away towards the W. Our Deep-sky Director Auke Slotegraaf provided me with the following information; kappa CrA is also known as Dunlop 222. The first observations date back to 1836, and the latest to 2002. There are 41 observations on record. In 1836, the double was at PA 360 deg (30.0 arcseconds) and 2002 it was at PA 359 deg (20.8 arcseconds). The brightest component of this double star is kappa 2 and not kappa 1.

The most exceptional objects contained by Corona Australis can be seen at the furthestmost NNE point of the half-moon-shaped garland of stars just E of ϵ Coronae Australis. My notes refer to this area as a region with obscured diffuse nebulosity beaded with various-magnitude star gems. The globular cluster NGC 6723 situated in the constellation Sagittarius is only 30' to the

the southern queen's crown

NW, conveniently pointing the way to the complex section. Twin stars (7 and 9 magnitude) indicate **NGC 6726/7**, which is situated in one of the most outstanding star-fields I have ever seen. NGC 6727 is the soft reflecting nebulosity folding like a soft, hazy eiderdown around the variable star TY Corona Australis. The southern, brighter part is NGC 6726, which is also known as a variable reflecting nebula, barely 1' south of NGC 6727. A challenge, however, is to pin down the tiny variable nebula **NGC 6729** hanging in the nebulosity just 5' NE of this wonderful reflecting veil of haziness. NGC 6729 nebulosity folds around the star R Corona Australis, which varies between magnitude 9.7 and 13.5 in brightness. The scene reminds me of street lamps in the distance as I look through my fogged-up bedroom window. One can almost smell the mist, as if in a rainy forest. The nebulosity flows down southwards to **IC 4812**, which is situated 12' S of NGC 6726/7 in a soft cover of haze.

Moving down southwards along the stars in the crown one reaches the western jewel β Coronae Australis. A mere 1.4 degrees further east, the planetary nebula **IC 1297** is located barely 15' from the southern Sagittarius border. The soft haze could be compared to the glow of a frosted, pale blue opal stone. The nebula appears to have a diffuse edge, but is not that difficult to spot against the rather faint starry field. An Oxygen III filter will bring this planetary more to the fore.

Corona Australis is situated reasonably close to the largest part of the Milky Way, where galaxies are not commonly found. Nevertheless, our Crown constellation does not disappoint, as the galaxy **NGC 6768** is found a mere 35' S of the above-mentioned planetary, IC 1297. It turns out to be two or more merging star-cities with the brighter and larger galaxy to the north. A small E-W oval extension fits comfortably close to the larger one. I have tried my

Object	Type	RA (J2000.0)	Dec	Mag	Size
Kappa CrA	Double Star	18 ^h 33.4 ^m	-38°43'	5.9 to 6.6	sep 21.4"
ESO 281-SC24	Open Cluster	18 40.0	-44 12	9 to 10	6.0'
IC 4812	Bright Neb	19 01.1	-37 04	6.5	10'
IC 4808	Galaxy	19 01.7	-45 19	13.0	2'x0.8'
NGC 6726	Bright Neb	19 01.7	-36 53	~7	18'
NGC 6727	Bright Neb	19 01.8	-36 53	8.0	10'
NGC 6729	Variable N	19 01.9	-36 57	9.0	4'
NGC 6768	Galaxies	19 16.5	-40 11	11.2	1.2'x1.1'
IC 1297	Planetary N	19 17.4	-39 37	10.7	7"
NGC 6541	Globular Cl	19 08.0	-43 42	6.1	13.1'

utmost to glimpse this pair of galaxies, but cannot confirm them, although I imagine I can detect a soft glow with averted vision. However, the galaxy **IC 4808**, which is situated on the border between Corona Australis and Telescopium, probably has an identity crisis about which constellation it actually belongs to. The galaxy displays a soft oval in a NE-SW direction at

218 power. It grows slightly brighter towards the middle area. A few faint stars in a V shape are situated NE of the galaxy.

When you look up into the starry skies at our southern Crown this winter, pretend that you are the king or queen it belongs to, and discover and revel in its rich precious stones. ☆

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