= Corona Australis =

Corona Australis or Corona Austrina is a constellation in the Southern Celestial Hemisphere . Its Latin name means " southern crown " , and it is the southern counterpart of Corona Borealis , the northern crown . One of the 48 constellations listed by the 2nd @-@ century astronomer Ptolemy , it remains one of the 88 modern constellations . The Ancient Greeks saw Corona Australis as a wreath rather than a crown and associated it with Sagittarius or Centaurus . Other cultures have likened the pattern to a turtle , ostrich nest , a tent , or even a hut belonging to a rock hyrax .

Although fainter than its namesake , the oval- or horseshoe @-@ shaped pattern of its brighter stars renders it distinctive . Alpha and Beta Coronae Australis are the two brightest stars with an apparent magnitude of around 4 @.@ 1 . Epsilon Coronae Australis is the brightest example of a W Ursae Majoris variable in the southern sky . Lying alongside the Milky Way , Corona Australis contains one of the closest star @-@ forming regions to the Solar System ? a dusty dark nebula known as the Corona Australis Molecular Cloud , lying about 430 light years away . Within it are stars at the earliest stages of their lifespan . The variable stars R and TY Coronae Australis light up parts of the nebula , which varies in brightness accordingly .

= = Characteristics = =

Corona Australis is a small constellation bordered by Sagittarius to the north , Scorpius to the west , Telescopium to the south , and Ara to the southwest . The three @-@ letter abbreviation for the constellation , as adopted by the International Astronomical Union in 1922 , is ' CrA ' . The official constellation boundaries , as set by Eugène Delporte in 1930 , are defined by a polygon of four segments (illustrated in infobox) . In the equatorial coordinate system , the right ascension coordinates of these borders lie between 17h 58.3m and 19h 19.0m , while the declination coordinates are between ? 36 @.@ 77 ° and ? 45 @.@ 52 ° . Covering 128 square degrees , Corona Australis culminates at midnight around the 30th of June and ranks 80th in area . Only visible at latitudes south of 53 ° north , Corona Australis cannot be seen from the British Isles as it lies too far south , but it can be seen from southern Europe and readily from the southern United States .

= = Notable features = =

While not a bright constellation , Corona Australis is nonetheless distinctive due to its easily identifiable pattern of stars , which has been described as horseshoe- or oval @-@ shaped . Though it has no stars brighter than 4th magnitude , it still has 21 stars visible to the unaided eye (brighter than magnitude 5 @.@ 5) . Nicolas Louis de Lacaille used the Greek letters Alpha through to Lambda to label the most prominent eleven stars in the constellation , designating two stars as Eta and omitting Iota altogether . Mu Coronae Australis , a yellow star of spectral type G5.5III and apparent magnitude 5 @.@ 21 , was labelled by Johann Elert Bode and retained by Benjamin Gould , who deemed it bright enough to warrant naming .

= = = Stars = = =

The only star in the constellation to have received a name is Alfecca Meridiana or Alpha CrA . The name combines the Arabic name of the constellation with the Latin for " southern " . In Arabic , Alfecca means " break " , and refers to the shape of both Corona Australis and Corona Borealis . Also called simply " Meridiana " , it is a white main sequence star located 130 light years away from Earth , with an apparent magnitude of 4 @.@ 10 and spectral type A2Va . A rapidly rotating star , it spins at almost 200 km per second at its equator , making a complete revolution in around 14 hours . Like the star Vega , it has excess infrared radiation , which indicates it may be ringed by a disk of dust . It is currently a main @-@ sequence star , but will eventually evolve into a white dwarf ; currently , it has a luminosity 31 times greater , and a radius and mass of 2 @.@ 3 times that of the

Sun . Beta Coronae Australis is an orange giant 510 light years from Earth . Its spectral type is K0II , and it is of apparent magnitude 4 @.@ 11 . Since its formation , it has evolved from a B @-@ type star to a K @-@ type star . Its luminosity class places it as a bright giant ; its luminosity is 730 times that of the Sun , designating it one of the highest @-@ luminosity K0 @-@ type stars visible to the naked eye . 100 million years old , it has a radius of 43 solar radii (R ?) and a mass of between 4 @.@ 5 and 5 solar masses (M ?) . Alpha and Beta are so similar as to be indistinguishable in brightness to the naked eye .

Some of the more prominent double stars include Gamma Coronae Australis ? a pair of yellowish white stars 58 light years away from Earth , which orbit each other every 122 years . Widening since 1990 , the two stars can be seen as separate with a 100 mm aperture telescope ; they are separated by 1 @.@ 3 arcseconds at an angle of 61 degrees . They have a combined visual magnitude of 4 @.@ 2 ; each component is an F8V dwarf star with a magnitude of 5 @.@ 01 . Epsilon Coronae Australis is an eclipsing binary belonging to a class of stars known as W Ursae Majoris variables . These star systems are known as contact binaries as the component stars are so close together they touch . Varying by a quarter of a magnitude around an average apparent magnitude of 4 @.@ 83 every seven hours , the star system lies 98 light years away . Its spectral type is F4VFe @-@ 0 @.@ 8 + . At the southern end of the crown asterism are the stars Eta ¹ and Eta ² Coronae Australis , which form an optical double . Of magnitude 5 @.@ 1 and 5 @.@ 5 , they are separable with the naked eye and are both white . Kappa Coronae Australis is an easily resolved optical double ? the components are of apparent magnitudes 6 @.@ 3 and 5 @.@ 7 and are 1700 and 490 light years away respectively . They appear at an angle of 359 degrees , separated by 21 @.@ 6 arcseconds . Kappa ² is actually the brighter of the pair and is more bluish white , with a spectral type of B9V , while Kappa ¹ is of spectral type A0III . Lying 202 light years away , Lambda Coronae Australis is a double splittable in small telescopes . The primary is a white star of spectral type A2Vn and magnitude of 5 @.@ 1 , while the companion star has a magnitude of 9 @.@ 7 . The two components are separated by 29 @.@ 2 arcseconds at an angle of 214 degrees .

Zeta Coronae Australis is a rapidly rotating main sequence star with an apparent magnitude of 4 @.@ 8 , 221 @.@ 7 light years from Earth . The star has blurred lines in its hydrogen spectrum due to its rotation . Its spectral type is B9V . Theta Coronae Australis lies further to the west , a yellow giant of spectral type G8III and apparent magnitude 4 @.@ 62 . Corona Australis harbours RX J1856.5 @-@ 3754 , an isolated neutron star that is thought to lie 140 (± 40) parsecs , or 460 (± 130) light years , away , with a diameter of 14 km . It was once suspected to be a strange star , but this has been discounted .

= = = Deep sky objects = = =

In the north of the constellation is the Corona Australis Molecular Cloud , a dark molecular cloud with many embedded reflection nebulae , including NGC 6729 , NGC 6726 ? 7 , and IC 4812 . A star @-@ forming region of around 7000 M ? , it contains Herbig ? Haro objects (protostars) and some very young stars . About 430 light years (130 parsecs) away , it is one of the closest star @-@ forming regions to the Solar System . The related NGC 6726 and 6727 , along with unrelated NGC 6729 , were first recorded by Johann Friedrich Julius Schmidt in 1865 . The Coronet cluster , about 554 light years (170 parsecs) away at the edge of the Gould Belt , is also used in studying star and protoplanetary disk formation .

R Coronae Australis is an irregular variable star ranging from magnitudes 9 @.@ 7 to 13 @.@ 9 . Blue @-@ white , it is of spectral type B5IIIpe . A very young star , it is still accumulating interstellar material . It is obscured by , and illuminates , the surrounding nebula , NGC 6729 , which brightens and darkens with it . The nebula is often compared to a comet for its appearance in a telescope , as its length is five times its width . S Coronae Australis is a G @-@ class dwarf in the same field as R and is a T Tauri star . Nearby , another young variable star , TY Coronae Australis , illuminates another nebula : reflection nebula NGC 6726 ? 7 . TY Coronae Australis ranges irregularly between magnitudes 8 @.@ 7 and 12 @.@ 4 , and the brightness of the nebula varies with it . Blue @-@

white , it is of spectral type B8e . The largest young stars in the region , R , S , T , TY and VV Coronae Australis , are all ejecting jets of material which cause surrounding dust and gas to coalesce and form Herbig ? Haro objects , many of which have been identified nearby . Lying adjacent to the nebulosity is the globular cluster known as NGC 6723 , which is actually in the neighbouring constellation of Sagittarius and is much much further away .

Near Epsilon and Gamma Coronae Australis is Bernes 157 , a dark nebula and star forming region . It is a large nebula , 55 by 18 arcminutes , that possesses several stars around magnitude 13 . These stars have been dimmed by up to 8 magnitudes by its dust clouds .

IC 1297 is a planetary nebula of apparent magnitude 10 @.@ 7 , which appears as a green @-@ hued roundish object in higher @-@ powered amateur instruments . The nebula surrounds the variable star RU Coronae Australis , which has an average apparent magnitude of 12 @.@ 9 and is a WC class Wolf ? Rayet star . IC 1297 is small , at only 7 arcseconds in diameter ; it has been described as " a square with rounded edges " in the eyepiece , elongated in the north @-@ south direction . Descriptions of its color encompass blue , blue @-@ tinged green , and green @-@ tinged blue .

Corona Australis ' location near the Milky Way means that galaxies are uncommonly seen . NGC 6768 is a magnitude 11 @.@ 2 object 35 ? south of IC 1297 . It is made up of two galaxies merging , one of which is an elongated elliptical galaxy of classification E4 and the other a lenticular galaxy of classification S0 . IC 4808 is a galaxy of apparent magnitude 12 @.@ 9 located on the border of Corona Australis with the neighbouring constellation of Telescopium and 3 @.@ 9 degrees west @-@ southwest of Beta Sagittarii . However , amateur telescopes will only show a suggestion of its spiral structure . It is 1 @.@ 9 arcminutes by 0 @.@ 8 arcminutes . The central area of the galaxy does appear brighter in an amateur instrument , which shows it to be tilted northeast @-@ southwest .

Southeast of Theta and southwest of Eta lies the open cluster ESO 281 @-@ SC24 , which is composed of the yellow 9th magnitude star GSC 7914 178 1 and five 10th to 11th magnitude stars . Halfway between Theta Coronae Australis and Theta Scorpii is the dense globular cluster NGC 6541 . Described as between magnitude 6 @.@ 3 and magnitude 6 @.@ 6 , it is visible in binoculars and small telescopes . Around 22000 light years away , it is around 100 light years in diameter . It is estimated to be around 14 billion years old . NGC 6541 appears 13 @.@ 1 arcminutes in diameter and is somewhat resolvable in large amateur instruments ; a 12 @-@ inch telescope reveals approximately 100 stars but the core remains unresolved .

= = = Meteor showers = = =

The Corona Australids are a meteor shower that takes place between 14 and 18 March each year , peaking around 16 March . This meteor shower does not have a high peak hourly rate . In 1953 and 1956 , observers noted a maximum of 6 meteors per hour and 4 meteors per hour respectively ; in 1955 the shower was " barely resolved " . However , in 1992 , astronomers detected a peak rate of 45 meteors per hour . The Corona Australids ' rate varies from year to year . At only six days , the shower 's duration is particularly short , and its meteoroids are small ; the stream is devoid of large meteoroids . The Corona Australids were first seen with the unaided eye in 1935 and first observed with radar in 1955 . Corona Australid meteors have an entry velocity of 45 kilometers per second . In 2006 , a shower originating near Beta Coronae Australis was designated as the Beta Coronae Australids . They appear in May , the same month as a nearby shower known as the May Microscopids , but the two showers have different trajectories and are unlikely to be related .

= = History = =

Corona Australis may have been recorded by ancient Mesopotamians in the MUL.APIN , as a constellation called MA.GUR (" The Bark ") . However , this constellation , adjacent to SUHUR.MASH (" The Goat @-@ Fish " , modern Capricornus) , may instead have been modern Epsilon Sagittarii . As a part of the southern sky , MA.GUR was one of the fifteen " stars of Ea " .

In the 3rd century BC , the Greek didactic poet Aratus wrote of , but did not name the constellation , instead calling the two crowns ???????? (Stephanoi) . The Greek astronomer Ptolemy described the constellation in the 2nd century AD , though with the inclusion of Alpha Telescopii , since transferred to Telescopium . Ascribing 13 stars to the constellation , he named it ???????? ?????? (Stephanos notios) , " Southern Wreath " , while other authors associated it with either Sagittarius (having fallen off his head) or Centaurus ; with the former , it was called Corona Sagittarii . Similarly , the Romans called Corona Australis the " Golden Crown of Sagittarius " . It was known as Parvum Coelum (" Canopy " , " Little Sky ") in the 5th century . The 18th @-@ century French astronomer Jérôme Lalande gave it the names Sertum Australe (" Southern Garland ") and Orbiculus Capitis , while German poet and author Philippus Caesius called it Corolla (" Little Crown ") or Spira Australis (" Southern Coil ") , and linked it with the Crown of Eternal Life from the New Testament . Seventeenth @-@ century celestial cartographer Julius Schiller linked it to the Diadem of Solomon . Sometimes , Corona Australis was not the wreath of Sagittarius but arrows held in his hand .

Corona Australis has been associated with the myth of Bacchus and Stimula . Jupiter had impregnated Stimula , causing Juno to become jealous . Juno convinced Stimula to ask Jupiter to appear in his full splendor , which the mortal woman could not handle , causing her to burn . After Bacchus , Stimula 's unborn child , became an adult and the god of wine , he honored his deceased mother by placing a wreath in the sky .

In Chinese astronomy , the stars of Corona Australis are located within the Black Tortoise of the North (???? , B?i F?ng Xuán W?) . The constellation itself was known as ti 'en pieh (" Heavenly Turtle ") and during the Western Zhou period , marked the beginning of winter . However , precession over time has meant that the " Heavenly River " (Milky Way) became the more accurate marker to the ancient Chinese and hence supplanted the turtle in this role . Arabic names for Corona Australis include Al ?ubbah " the Tortoise " , Al ?ib? " the Tent " or Al Ud?? al Na '?m " the Ostrich Nest " . It was later given the name Al Ikl?l al Jan?biyyah , which the European authors Chilmead , Riccioli and Caesius transliterated as Alachil Elgenubi , Elkleil Elgenubi and Aladil Algenubi respectively .

The ?Xam speaking San people of South Africa knew the constellation as ? nabbe ta ! nu " house of branches " ? owned originally by the Dassie (rock hyrax) , and the star pattern depicting people sitting in a semicircle around a fire .

The indigenous Boorong people of northwestern Victoria saw it as Won , a boomerang thrown by Totyarguil (Altair) . The Aranda people of Central Australia saw Corona Australis as a coolamon carrying a baby , which was accidentally dropped to earth by a group of sky @-@ women dancing in the Milky Way . The impact of the coolamon created Gosses Bluff crater , 175 km west of Alice Springs . The Torres Strait Islanders saw Corona Australis as part of a larger constellation encompassing part of Sagittarius and the tip of Scorpius 's tail ; the Pleiades and Orion were also associated . This constellation was Tagai 's canoe , crewed by the Pleiades , called the Usiam , and Orion , called the Seg . The myth of Tagai says that he was in charge of this canoe , but his crewmen consumed all of the supplies onboard without asking permission . Enraged , Tagai bound the Usiam with a rope and tied them to the side of the boat , then threw them overboard . Scorpius 's tail represents a suckerfish , while Eta Sagittarii and Theta Coronae Australis mark the bottom of the canoe . On the island of Futuna , the figure of Corona Australis was called Tanuma and in the Tuamotus , it was called Na Kaua @-@ ki @-@ Tonga .