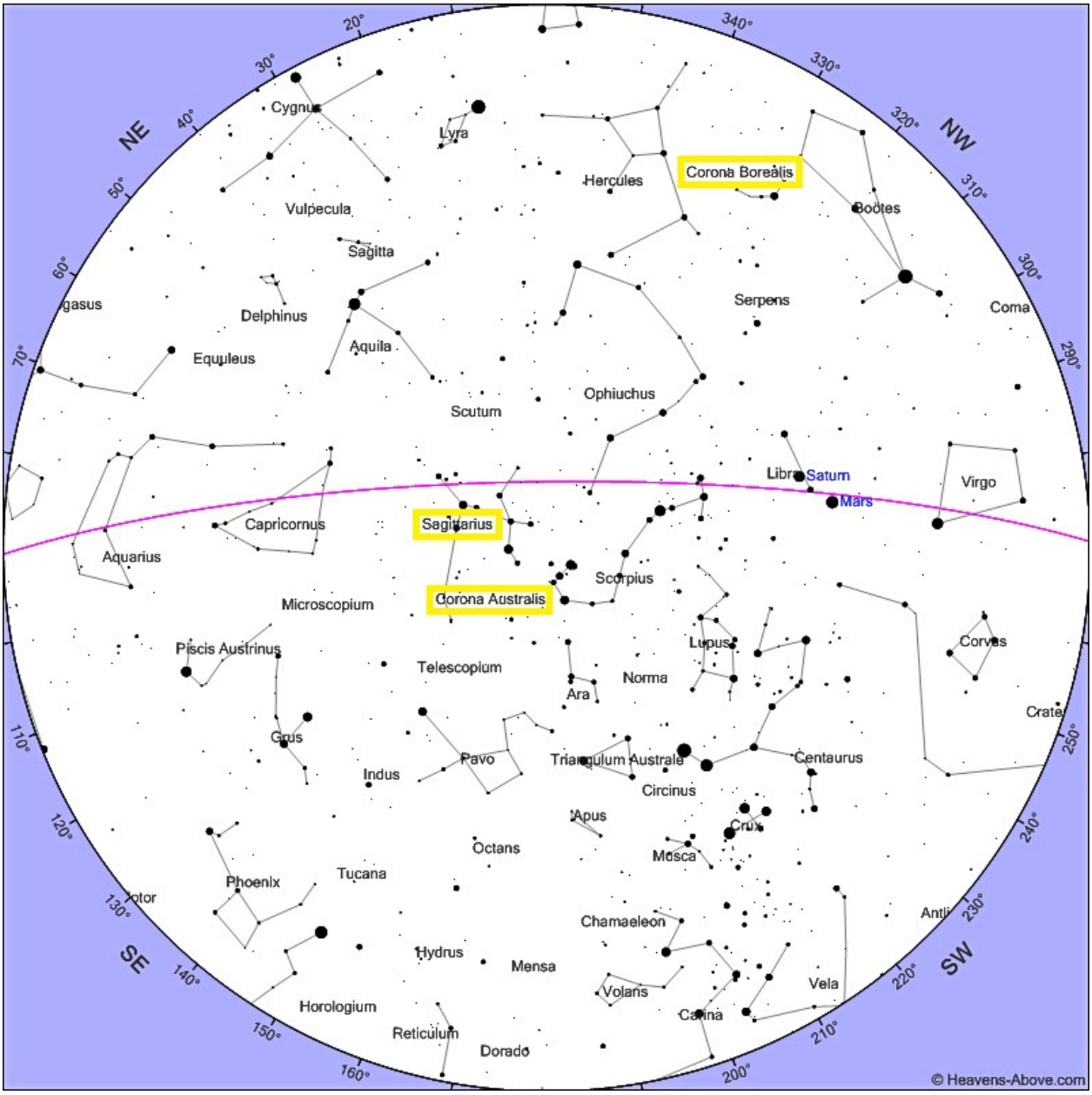
HERMANUS ASTRONOMY CENTRE

THE SKY THIS MONTH : AUGUST 2014

http://www.hermanusastronomy.co.za/

NOTE: The sky maps for this month are attached as separate attachments to the covering e-mail. This will give you the ability to view them on screen in a larger format or to print them full page for use outside to find the stars. Some members have reported difficulty in printing these maps; the best method is to download them, www.heavens-above.com, and from the download directory, then to highlight them and click on preview; once in the preview menu just press print!



EVENING SKY 15th August at 21h00

(The mauve line denotes the ecliptic)

THE EVENING SKY

1. Refer to the map above for the evening sky on 15 August.

   Highlights from the Sky Guide:

Date	*Time*	*Item*
2	17h00	**Moon** near **Spica**
7		**Moon** near **Messier 9**
8	18h00	**Mercury** at superior conjunction
12	01h00	**Moon** near **Neptune**
18	19h00	**Moon** near **Aldebaran**
27	04h00	**Mercury** near **Moon**
29	16h00	**Neptune** at opposition
31	21h00	**Saturn** and **Mars** near **Moon**

2. **THE SOLAR SYSTEM**:
   Of the naked-eye planets, **Mars** and **Saturn** are visible. Both are well placed for observation with binoculars. **Neptune** (near the Moon on the 12th) and **Uranus** (on the 14th) are available earlier and later in the month to the well prepared telescopic observer. The **full Moon** on 10th August is the largest for the year. **Saturn / Moon / Mars** are closely grouped in **Leo**.

The Moon

Phases of the Moon:

Date	*Time*	*Event*
4 August	13:00	First Quarter
10 August	13:25	Full Moon
17 August	04:00	Last Quarter
25 August	00:00	New Moon
Events		
7August	19:00	maximum southerly declination
10 August	10:00	perigee (356,900 km), largest for the year, size 33.7 arc minutes
20 August	18:00	maximum northerly declination
24 August	05:00	apogee (406,500 km)

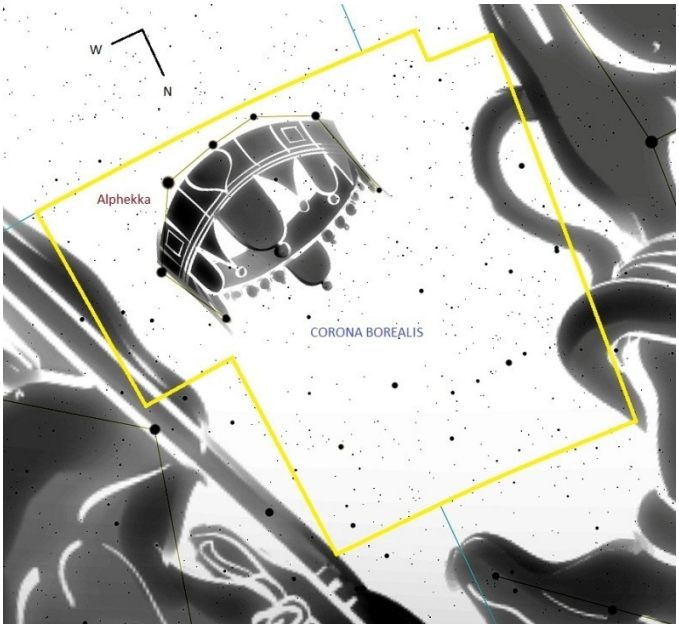
Lunar Occultations – Although both Uranus (at 18h00 on 14th) and Saturn (21h00 on 31st) are predicted in the Sky Guide, neither will be visible in the southern African sky.

Eclipses – none predicted for August

3. THE STARS AND DEEP SKY:

Date and Time	***Item*** (magnitude in brackets)
All month	**Sagittarius** (the Archer) rich deep sky fields including: **Trifid** (M20) nebula (6.3, binoculars) **Lagoon** (M8) nebula (5.8) **Swan** (M17) bright nebula (6.0)
	in **Ara** (the Altar): **NGC 6193** open cluster (5.2) **NGC 6397** globular cluster (5.7)
	In **Scutum** (the Shield): **Wild Duck** (M11) open cluster (5.8)
	In **Lyra** (the Lyre): **Ring Nebula** (M57) planetary nebula (9, telescope)
	Also see, with the naked eye, the beautiful curve of the **Corona Australis** close to the chest of the Archer

4. CONSTELLATIONS OF THE MONTH



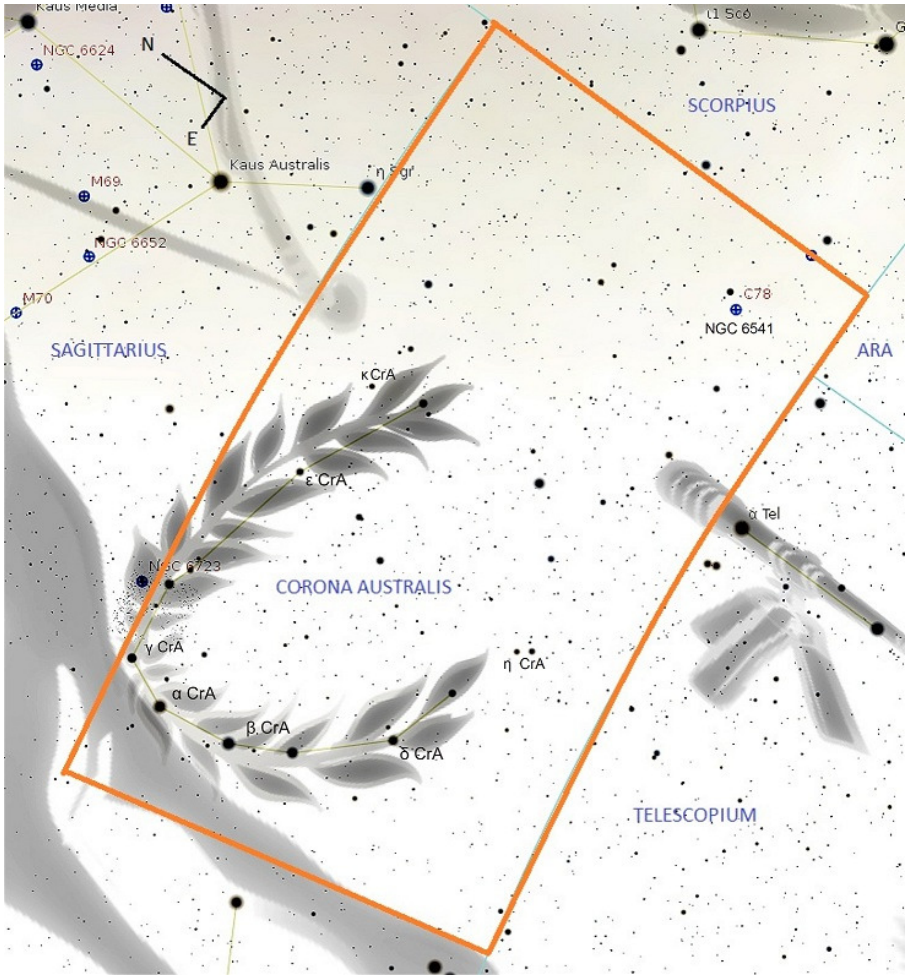
From Ian Ridpath's "Star tales"

The selected constellations for the month of August are Corona Borealis (the Northern Crown) and Corona Australis (the Southern Crown). See the evening Sky Map above to navigate through the skies and sky maps to left with the artwork of the mythical characters.

Corona Borealis has an area of 179 square degrees and is the 73rd largest constellation. The brightest star in the constellation is Alphekka (α Coronae Borealis, CrB) and has a magnitude of 2.2. The distinctive asterism formed by the seven brightest stars gives this constellation its name. The stars in this constellation are quite dim and, although there are a number of binary or multiple stars in the constellation, only zeta (ζ) CrB is divisible by a small telescope. Tau (τ) CrB, magnitude 10, is an exploding variable type of star known as a *recurrent* nova; the explosion is caused by a nuclear chain reaction. There are no significant deep space objects in this constellation.

The semi-circle of stars between Boötes and Hercules marks the golden crown worn by Princess Ariadne of Crete when she married the god Dionysus. The crown is said to have been made by Hephaestus, the god of fire, and was studded with jewels from India. Ariadne, daughter of King Minos of Crete, is famous in mythology for her part in helping Theseus to slay the Minotaur, the gruesome creature with the head of a bull on a human body. Ariadne was actually half-sister to the Minotaur, for her mother Pasiphae had given birth to the creature after copulating with a bull owned by King Minos. To hide the family's shame, Minos imprisoned the Minotaur in a labyrinth designed by the master craftsman Daedalus. So complex was the maze of the labyrinth that neither the Minotaur nor anyone else who ventured in could ever find their way out.

Corona Australis (CrA), see the sky map below, is an even smaller constellation (80th out of 88) and has an area of 128 square degrees. As is the case of its northern cousin, the half-moon shaped asterism of its seven main stars, inspired its name. α and β CrA are of similar magnitude and are indistinguishable in brightness to the naked eye. Eta (η) CrA forms an optical double. Gamma (γ) and Kappa (κ) CrA are binaries which can both be split by a small telescope. Epsilon (ε) CrA is an eclipsing binary where the stars are so close together that they touch one another. NGC 6541 (south west corner of the constellation) is a globular cluster with an angular diameter of 15 arc minutes and a magnitude of 6.3. It is visible in a good binocular. It is approximately 22,000 light years from our solar system and is estimated to be more than 13 billion years old (one of the early clusters formed just after the Big Bang).



From Ian Ridpath's "Star tales"

Corona Australis was known to the Greeks not as a crown but as a wreath, which is how it is depicted on old star maps. Aratus did not name it as a separate constellation but referred to it as a circlet of stars beneath the forefeet of Sagittarius. Perhaps it has slipped off the archer's head. Ptolemy listed 13 stars in Corona Australis, although one of them has since been reassigned to the modern constellation Telescopium which adjoins it, as Alpha Telescopii. None of its stars is brighter than fourth magnitude and there seem to be no legends associated with it, unless this is the crown placed in the sky by Dionysus after retrieving his dead mother from the Underworld. Hyginus gives this myth under the Northern Crown (Corona Borealis) but it seems out of place there and he may have confused the two constellations. If so, the wreath would be made of myrtle leaves, for Dionysus left a gift of myrtle in Hades in return for his mother, and the followers of Dionysus wore crowns of myrtle.

Chinese associations

Chinese astronomers saw the stars of Corona Australis as forming a large turtle with a strong shell, Bie, positioned on the banks of the celestial river, the Milky Way. Fourteen stars were involved. One depiction restricts Bie to the stars of present-day Corona Australis, although an alternative view shows it extending further south to include Alpha Telescopii. Not far away in the Chinese sky was another turtle, Gui, in the area we know as Ara.

MORNING SKY 16 August at 05^{h}00

(The mauve line denotes the ecliptic)

5. **THE SOLAR SYSTEM**:
   Venus and **Jupiter** are both visible before sunrise after the 10th.

   Highlights from the Sky Guide:

6. **THE STARS AND DEEP SKY**:
   With Orion (the Hunter) rising in the east, Cetus (the Whale) and Pisces (the Fishes) high in the sky and Sagittarius (the Archer) setting in the west, seek out our summer evening friends the Pleiades and Hyades, both worth fetching the binoculars for.

7. THE SUN AND PLANETS

Sun & Planets	*Month:*	*August 2014*	*1st*	*31st*
Sun		Rises:	07:37	07:04
Constellation:	Cancer - Leo	Transits:	12:50	12:44
Length of day:	11h21m	Sets:	18:03	18:24
Mercury		Rises:	07:15	07:56
Constellation:	Cancer - Leo - Virgo	Transits:	12:18	13:56
Magnitude:	-1.5 to -0.3	Sets:	17:21	19:56
Venus		Rises:	06:18	06:29
Constellation:	Gemini - Cancer - Leo	Transits:	11:16	11:50
Magnitude:	- 3.9	Sets:	16:14	17:12
Mars		Rises:	11:26	10:21
Constellation:	Virgo – Pisces - Libra	Transits:	18:06	17:19
Magnitude:	+0.4 to +0.6	Sets:	00:48	00:18
Jupiter		Rises:	07:22	05:46
Constellation:	Cancer	Transits:	12:28	10:56
Magnitude:	-1.8	Sets:	17:33	16:07
Saturn		Rises:	12:19	10:25
Constellation:	Libra	Transits:	19:02	17:09
Magnitude:	+0.5 to +0.6	Sets:	01:49	23:54
Uranus		Rises:	23:17	21:16
Constellation:	Pisces	Transits:	05:07	03:07
Magnitude:	+5.8 to +5.7	Sets:	10:52	08:53
Neptune		Rises:	20:09	18:07
Constellation:	Aquarius	Transits:	02:41	00:40
Magnitude:	+7.8	Sets:	09:09	07:09

8. METEOR SHOWERS

The following meteor showers are predicted in the Sky Guide for August. Although the 'Max' column indicates July, these showers are predicted through August as well. For those in possession of 2014 Sky Guides, please see more detail on page 86.

Name	*Date & Time of Max*	*Predicted until*	*Radiant*	*ZHR*	*vel.*	*Observing Prospect*
Piscis Australids	28 July	17 August	4° west of α PsA	5	35	Favourable
Southern δ Aquariids	29 July	29 August	5° west of δ Aqr	25	42	Favourable
α Capricornids	30 July	25 August	2° west of ε Aqr	5	25	Favourable

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NASA's website on SOHO