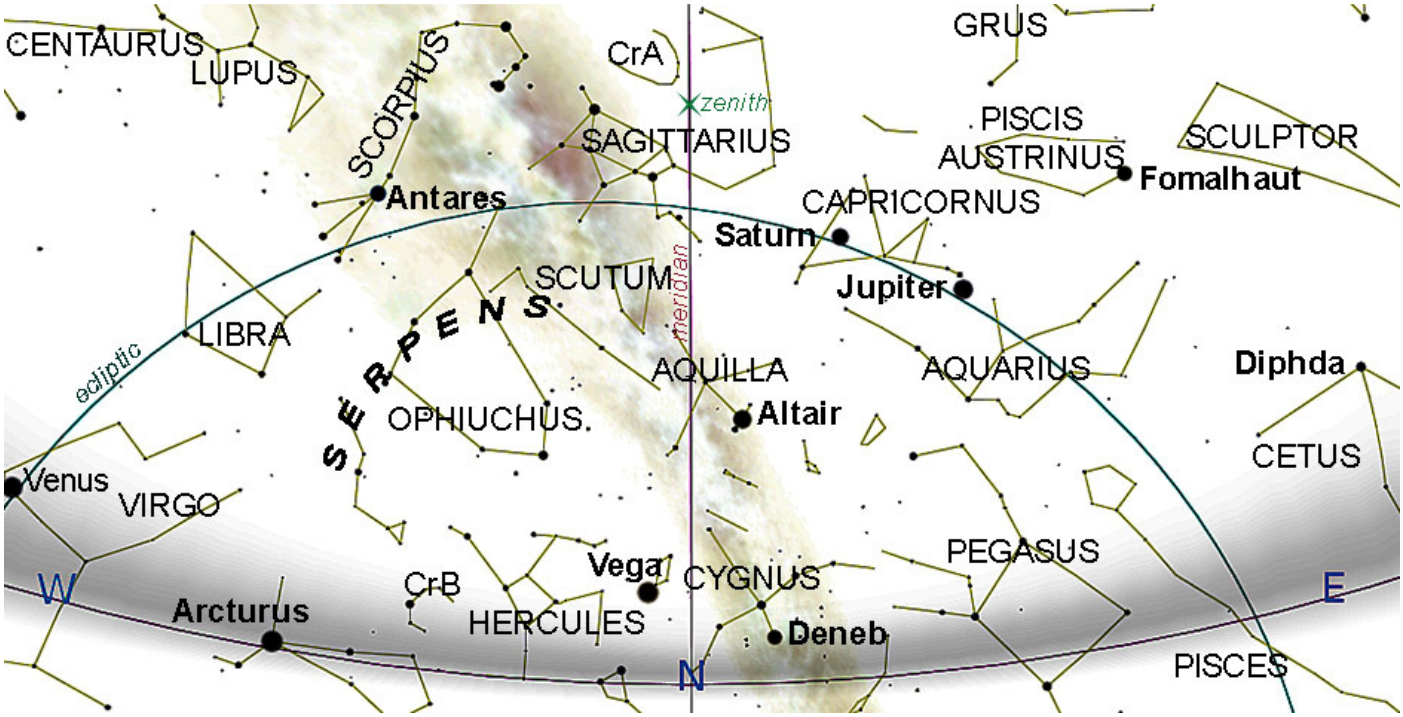
SKYNOTES from Hermanus

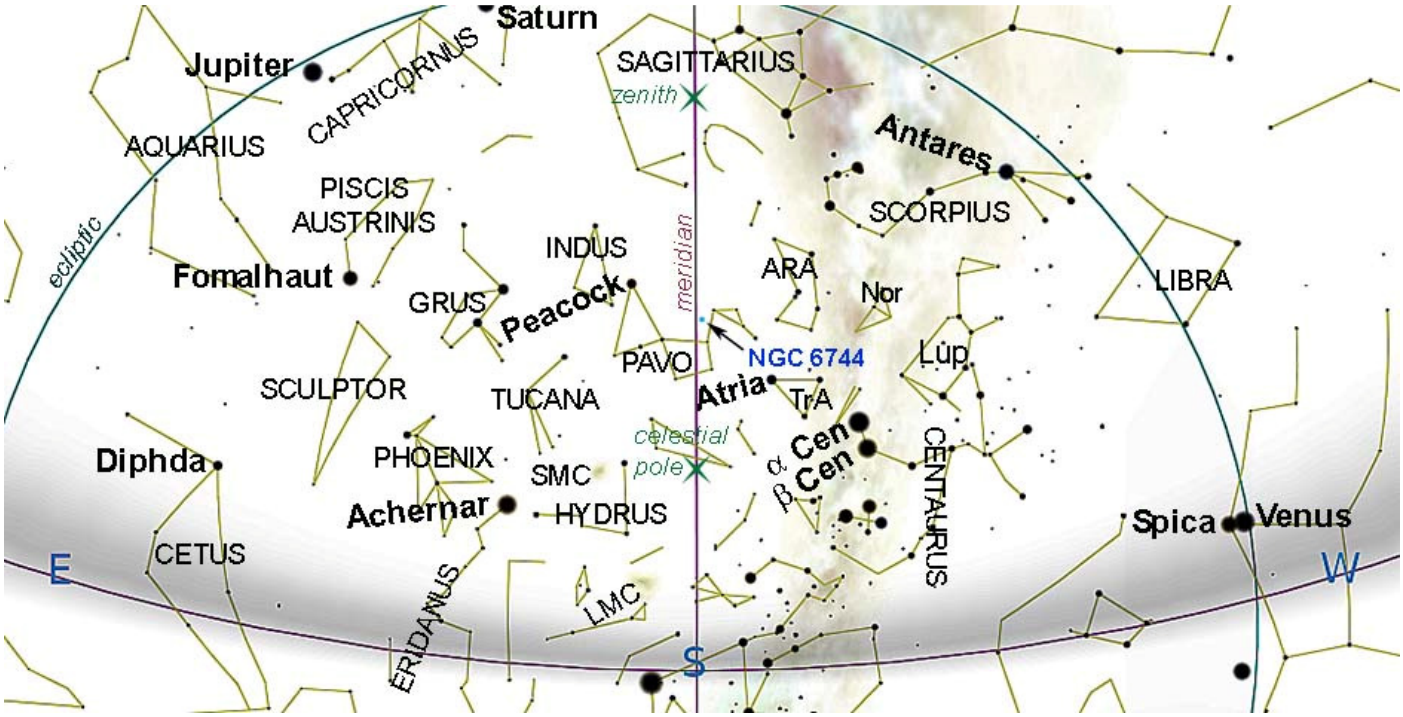
SEPTEMBER 2021

1. SKY CHARTS

EVENING SKY 6th SEPTEMBER at 21h00 (NORTH DOWN)



EVENING SKY 6th SEPTEMBER at 21h00 (SOUTH DOWN)



2. THE SOLAR SYSTEM

PLEASE NOTE: All events predicted are as observed from **Hermanus, Western Cape, South Africa. Times are South African Standard Time (UTC +2).**

HIGHLIGHTS FROM THE SKY GUIDE - September 2021

Date	*Time*	*Item*
2	02h23	**Moon** northernmost (+25.9º) (not visible from southern Africa)
5	20h52	**Venus** south of **Spica** (1.6º)
		Callisto at maximum from **Jupiter** (10.7‘ west)
7	02h52	**New Moon** (not visible from southern Africa)
8		**Titan** at maximum from **Saturn** (3’ east)
9 to 10		**Venus**, **Spica**, **Moon** and **Mercury** grouped after sunset (18h26)
11	12h07	**Moon** at perigee (368 463 km)
12	18h35	**Moon** at descending node
13	22h39	**First quarter Moon**
	00h37	**Moon** 5.4º south-east of **Antares** at moonset
	15h00	**Callisto** at maximum from **Jupiter** (10.5’ east)
14	05h59	**Mercury** at eastern elongation (26.8º)
15	05h48	**Moon** southernmost (-26.0º)
		Moon occults **λ Sagittarii**
16		**Titan** at maximum from **Saturn** (3.1º west)
17	04h26	**Moon** 3.3º south-east of **Saturn** on the western horizon
21	01h55	**Full Moon** (389 990 km; 30.6’)
		Callisto at maximum from **Jupiter** (10.4‘ west)
22	21h21	EQUINOX
24		**Titan** at maximum from **Saturn** (3’ east)
26	23h45	**Moon** at apogee (404 639’)
	09h33	**Moon** at ascending node
27		**Mercury** stationary
29	03h57	**Last quarter Moon**
	10h26	**Moon** northernmost (+26.1º)
30		**Callisto** at maximum from **Jupiter** (10.1º east)

[from the glossary of the Sky Guide Africa South]

[1] ASCENDING NODE – in the orbit of a solar system body, the point where the body crosses the ecliptic from south to north.

[2] DESCENDING NODE - in the orbit of a solar system body, the point where the body crosses the ecliptic from north to south.

SEPTEMBER 2021			*1st September*	*1st October*	*Visibility*
Sun Length of day	Leo to Virgo 11:23 to 12:26	Rises:	07h02	06h20	***Never look at the sun without SUITABLE EYE PROTECTION!***
		Transit:	12h43	12h33	
		Sets:	18h25	18h46	
Mercury Magnitude Phase Diameter	Virgo +2.0 to -0.0 73% to 16% 6” to 10”	Rises:	08h02	06h49	**Low in the west after sunset**
		Transit:	14h10	13h26	
		Sets:	20h19	20h03	
Venus Magnitude Phase Diameter	Virgo to Libra +1.7 to -4.2 73% to 62% 15” to 19”	Rises:	08h46	08h20	**Evening**
		Transit:	15h10	15h23	
		Sets:	21h35	22h27	
Mars Magnitude Phase Diameter	Leo to Virgo +1.8 to +1.7 100% 4”	Rises:	07h39	06h30	**Initially low in the west then moving too close to Sun**
		Transit:	13h29	12h42	
		Sets:	19h20	18h54	
Jupiter Magnitude Diameter	Capricornus -2.9 to -2.7 49” to 46”	Rises:	17h10	14h58	**Throughout the night then evening**
		Transit:	23h51	21h42	
		Sets:	06h37	04h30	
Saturn Magnitude Diameter	Capricornus +0.3 to +0.5 18”	Rises:	15h45	13h41	**Throughout the night then evening**
		Transit:	22h41	20h38	
		Sets:	05h42	03h40	
Uranus Magnitude Diameter	Aries +5.7 4”	Rises:	23h30	21h28	**Throughout the night**
		Transit:	04h51	02h50	
		Sets:	10h08	08h08	
Neptune Magnitude Diameter	Aquarius 7.8 2”	Rises:	19h17	17h16	**Throughout the night**
		Transit:	01h35	23h30	
		Sets:	07h48	05h48	
Pluto Magnitude	Sagittarius +14.3	Rises:	14h37	12h37	**Throughout the night then evening**
		Transit:	21h46	19h47	
		Sets:	04h58	03h00	

Phase: In a telescope, the inner planets (Mercury, Venus and Mars) appear to us in phases, depending on the angle of the Sun’s illumination, as does the Moon. The **angular diameter** is given in arc seconds (“). This is the apparent size of the object as we see it from Earth.

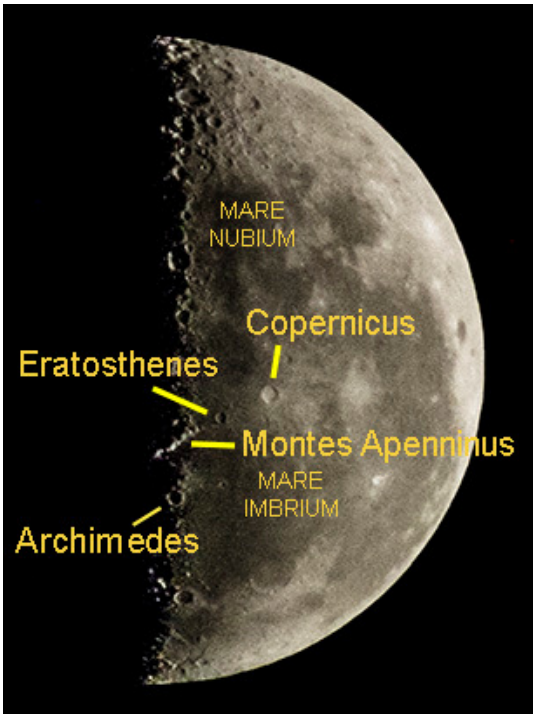
Magnitude: we are accustomed to hearing stars described in terms of ‘magnitude’. For example the planet Jupiter at magnitude -1.8 is considerably brighter than the star Antares (in Scorpius) at +1.05. The scale is ‘inverse’; the brighter the object, the lower the number. A ‘good’ human eye on a clear night can see down to a magnitude of about +6.

Transit: When an object crosses the **local meridian** it is said to **‘transit’**. The local meridian is an imaginary line from the horizon directly north passing overhead (through *zenith,* see charts on page 1) to the horizon directly south.

.

THE MOON

CRATER ERATOSTHENES



Eratosthenes crater is a relatively deep lunar impact crater that lies on the boundary between the Mare Imbrium and Sinus Aestuum mare regions. It forms the western terminus of the Montes Apenninus mountain range. It is named after the ancient Greek astronomer **Eratosthenes of Cyrene**, who estimated the circumference of the Earth and the distance from the Earth to the Sun. The crater has a well-defined circular rim, terraced inner wall, central mountain peaks, an irregular floor and an outer rampart of ejecta. It lacks a ray system of its own, but is overlain by rays from the prominent crater **Copernicus** to the south-west.

At low sun-angles, this crater is prominent due to the shadow cast by the rim. When the Sun is directly overhead, however, Eratosthenes visually blends into the surroundings and becomes more difficult for an observer to locate. The rays from Copernicus lie across this area, and their higher albedo serves as a form of camouflage.

In 1851 Shropshire Astronomer Henry Blunt constructed a model of the moon's surface showing Eratosthenes. The model is based on observations made by Blunt with a reflecting telescope from his home in Shrewsbury and was displayed in the same year at the Great Exhibition in London.

Diameter: 60 km. ***Depth***: 3.6 km. ***Features***: a central mountain with several summits.

Age: believed to have been formed about 3.2 billion years ago. The Eratosthenian period in the lunar geological timescale is named after this crater although it does not define the start of this time period.

Best seen: one day after first quarter and at last quarter.

Lunar and Solar eclipses: none predicted for this month

Meteor showers: none predicted for this month

For details regarding meteor watching, please see the SGAS 2021, pages 86- 87.

The following table is included to aid in the planning of observation evenings:

MOON RISE AND SET TIMES FOR SEPTEMBER

Weekday	*date*	*rise*	*set*	*Weekday*	*date*	*rise*	*set*	*Weekday*	*date*	*rise*	*set*
Wed	Sep/01	03h06	12h54	Sat	Sep/11	09h33	23h33	Tue	Sep/21	19h12	07h02
Thu	Sep/02	04h01	13h46	Sun	Sep/12	10h12		Wed	Sep/22	20h10	07h29
Fri	Sep/03	04h51	14h43	Mon	Sep/13	10h57	00h44	Thu	Sep/23	21h08	07h56
Sat	Sep/04	05h36	15h45	Tue	Sep/14	11h48	01h53	Fri	Sep/24	22h06	08h24
Sun	Sep/05	06h16	16h49	Wed	Sep/15	12h47	02h58	Sat	Sep/25	23h04	08h54
Mon	Sep/06	06h52	17h55	Thu	Sep/16	13h51	03h55	Sun	Sep/26		09h26
Tue	Sep/07	07h25	19h01	Fri	Sep/17	14h58	04h45	Mon	Sep/27	00h01	10h04
Wed	Sep/08	07h56	20h08	Sat	Sep/18	13h04	05h27	Tue	Sep/28	00h58	10h46
Thu	Sep/09	08h27	21h15	Sun	Sep/19	17h09	06h03	Wed	Sep/29	01h52	11h35
Fri	Sep/10	08h59	22h23	Mon	Sep/20	18h11	06h34	Thu	Sep/30	02h43	12h29

3. LOOKING UP

SUGGESTED EVENING OBSERVATION WINDOWS
(Lunar observations notwithstanding)

Date	*Dusk end*		*Moon*
27th August to	*19h46*	***Rises***	*23h20 (77%)*
9th September	*19h56*	***Sets***	*21h15 (5%)*
26th September to	*20h07*	***Rises***	*Does not rise*
8th October	*20h18*	***Sets***	*21h18 (6%)*

CLUB STARGAZING – sadly, thanks to the pandemic, we still cannot enjoy physical club gatherings. Of course that should not stop our intrepid members digging out a good coat and indulging in stargazing from home or your favourite darkest and *cloudless* spots.

And don't forget the fair **Selene**, our closest celestial neighbour.

Please consult our website for updates: http://www.hermanusastronomy.co.za

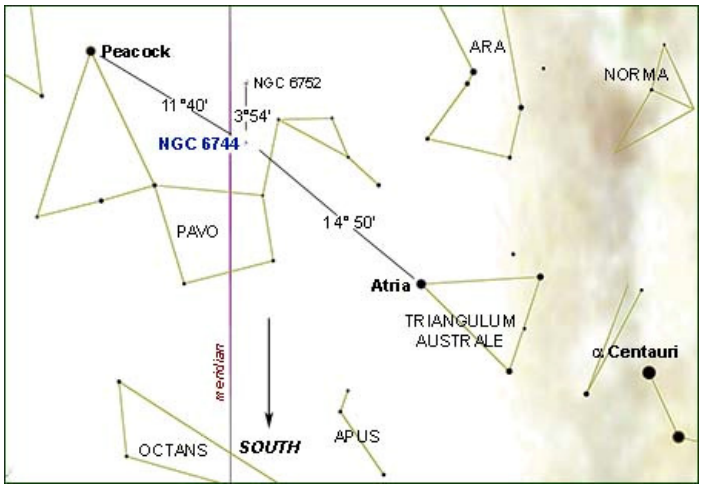
NGC 6744
C101

Description	Barred spiral galaxy
Constellation	Pavo
Distance	30 Mly, 9.1 Mpc
Magnitude	+8.27
Absolute mag	
Apparent size	15.7 x 9.8 arcmin
Actual size	135.9 kly, 41.7 kpc
Altitude/Azimuth	+60º35' / 181º30'
J2000 coordinates	Dec -63º 51' 00" / RA 19h 09' 48"

Visibility

Rises	*Transits*	*Sets*
Does not rise	20h54	Does not set

Naked Eye	No
Binoculars	Possibly
Telescope	Yes



Location
3º 54' south of 5.4 magnitude globular cluster **NGC 6752** (*see chart to left*).

History
Discovered from Parramatta, Australia, by Scottish astronomer James Dunlop on 30 June 1826

Description
NGC 6744 is the brightest galaxy in the constellation Pavo.

The beautiful NGC 6744 is believed to be one of the most Milky Way-like of all the nearby spirals, with fluffy (flocculent) spiral arms and a large and distinctly elongated nucleus. The galaxy also has at least one distorted companion galaxy, superficially similar to our Magellanic Clouds. The northernmost spiral arm of NGC 6744 is most likely being stretched due to the tidal pull of this dwarf companion which will ultimately merge with NGC 6744 in the distant future. A 16th magnitude supernova (SN 2005at) occurred in this galaxy in 2005.

Pavo

The peacock

Genitive: Pavonis

Abbreviation: Pav

Size ranking: 44th

Origin: The 12 southern constellations of Keyser and de Houtman

The peacock is one of the 12 figures introduced into the southern skies at the end of the 16th century by the Dutch navigators Pieter Dirkszoon Keyser and Frederick de Houtman. Pavo probably represents not the common blue, or Indian, peacock commonly seen in parks but its larger, more colourful and more aggressive cousin, the Java green peacock which Keyser and de Houtman would have encountered in the East Indies. Pavo was first depicted in 1598 on a globe by Petrus Plancius and first appeared in print in 1603 on the Uranometria atlas of Johann Bayer. On Bayer's representation the peacock had a more expansive tail, but this was later trimmed by Lacaille to make room for Telescopium to the north.

In mythology the peacock was the sacred bird of Hera, who drove through the air in a chariot drawn by peacocks. How the peacock came to have eyes on its tail is the subject of a Greek myth that began one day when Zeus turned his illicit love Io into a white cow to disguise her from his wife, Hera, who nearly caught them together. Hera was suspicious and put the heifer under the guardianship of Argus, who tethered the animal to an olive tree. Argus was ideally suited to the task of watchman, since he had 100 eyes, of which only two were resting at a time while the others kept a look out. Wherever Argus stood, he could always keep several of his eyes on Io.

Zeus sent his son Hermes to release Io from her captivity. Hermes swooped down to Earth and spent the day with Argus, telling him stories and playing his reed pipes until, one by one, the eyes of Argus became sleepy and began to close. When Argus was finally asleep, Hermes lopped off his head and released the heifer. Hera placed the eyes of Argus on the tail of the peacock.

The constellation's brightest star, second-magnitude Alpha Pavonis, is called Peacock, a name given in or around 1937 by the UK's Nautical Almanac Office for use in The Air Almanac, a navigation guide produced for the Royal Air Force. The RAF specified that all navigation stars should have proper names, so this name was coined for the otherwise unnamed Alpha Pavonis.

Please keep in touch...

Have a look at our excellent website, edited by Derek Duckitt.

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

Contact ASSA

Get in touch with officers of the Society - we're real people with a passion for astronomy, so contact us and let's talk!
You can find us on Facebook, Twitter, the ASSAInfo mailing list and the ASSADiscussion mailing list.
ASSA website http://assa.saao.ac.za
ASSA Deep-Sky Section
Whatsappchat group: [074 100 7237]
MNASSAhttp://assa.saao.ac.za/about/publications/mnassa/
Nightfall https://assa.saao.ac.za/?s=Nightfall
Official Big 5 of the African Sky web page
Official Big 5 Facebook group
ASSA Deep-Sky Section mailing list

Grateful thanks to the following:

ASSA
Ian Ridpath
Johan Retief
Sky Guide Africa South 2021
Sky Safari
Stellarium

Edited by Peter Harvey - e-mail: petermh@hermanus.co.za -Tel: +27 (0) 81 212 9481