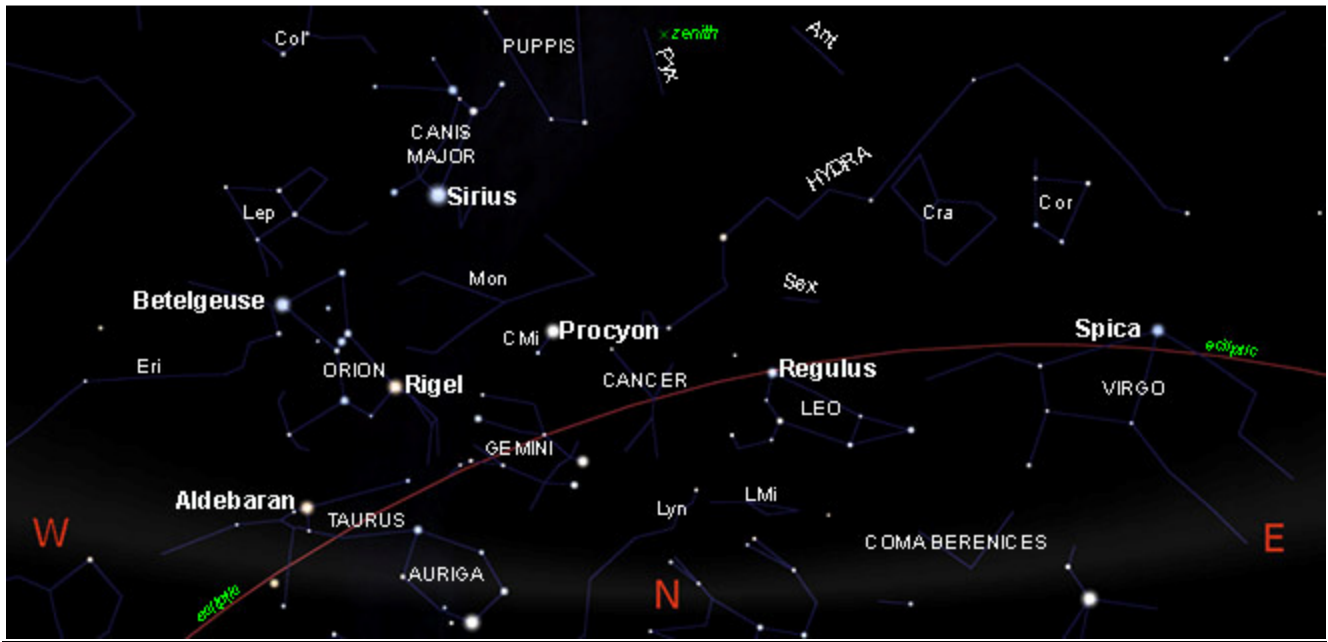
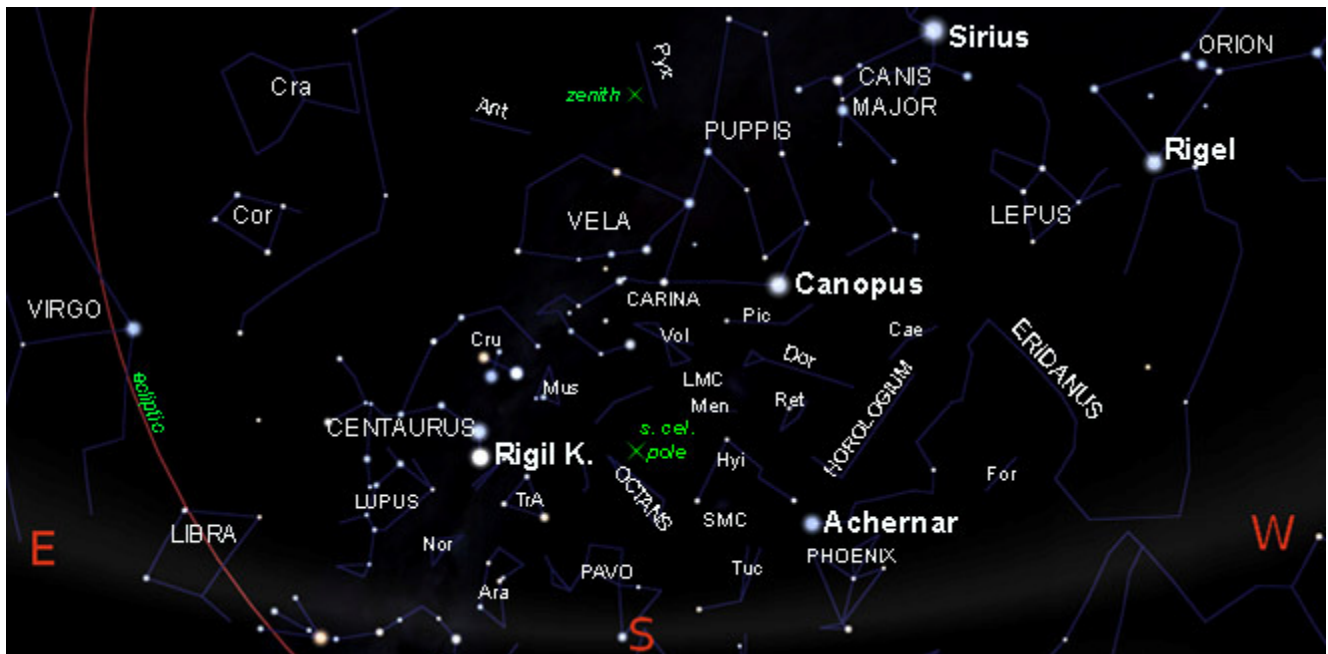


1. SKY CHARTS

EVENING SKY 1st APRIL at 21^h00 (NORTH DOWN)



EVENING SKY 1st APRIL at 21^h00 (SOUTH DOWN)



2. HIGHLIGHTS FROM THE SKY GUIDE

PLEASE NOTE: All events predicted are as observed from **Hermanus, Western Cape, South Africa**.

Date	Time	Item
1	02H15	Moon at apogee (405,576 Km)
2		Moon near Venus
		Mercury near Neptune
3		Moon near Mercury
		Moon near Neptune
5	10h50	New Moon
6		Moon near Uranus
8		Ceres stationary
9		Moon near Mars
		Moon near Aldebaran
10		Mercury at aphelion
		Venus 17.1' south of Neptune
		Jupiter stationary
		Pallas opposition (magnitude 7.9) ¹
11		Mercury at greatest western elongation (28 ^o)
12		<i>YURI'S NIGHT</i> ²
	21h06	First quarter Moon
		Moon furthest north (+22 ^o)
15		Moon near Regulus
17	00h03	Moon at perigee (364,208 Km)
18		Venus at aphelion
19	13h12	Full Moon
22		<i>EARTH DAY</i> ³
		April Lyrid meteor shower at Maximum
23		Moon near Jupiter
		Uranus at conjunction
24		Moon furthest south (-22.1 ^o)
25		Moon near Saturn and Pluto
27	00h18	Last quarter Moon
28	20h21	Moon at apogee (404,576 Km)
30		Moon near Neptune
		Mercury at greatest latitude south
		Saturn stationary

¹ **Pallas** (mag +7.94), about 5^o south-west of **Arcturus** (α Boötes), rises from the north-eastern horizon and is visible from about 11h30.

² *YURI'S NIGHT* – Yuri's Night is named for the first human to launch into space, [Yuri Gagarin](#), who flew the [Vostok 1](#) spaceship on April 12, 1961.

³ *EARTH DAY* - an annual event celebrated (this year) on April 22. Worldwide, various events are held to demonstrate support for [environmental protection](#).

3. THE SOLAR SYSTEM

APRIL 2019			1 st April	1 st May	Visibility
Sun Length of day	Pisces to Aries 11h 43m to 10h44	Rises:	06h55	07h18	Never look directly at the sun without suitable eye protection!
		Transit:	12h47	12h40	
		Sets:	18h38	18h02	
Mercury Magnitude Phase Diameter	Aquarius to Pisces +0.9 to -0.3 30% to 76% 9" to 6"	Rises:	05h00	05h39	Initially too close to the sun then low in east before sunrise
		Transit:	11h17	11h27	
		Sets:	17h34	17h14	
Venus Magnitude Phase Diameter	Aquarius to Pisces -4.0 to -3.9 81% to 88% 13" to 12"	Rises:	04h10	05h04	Low in the east before sunrise
		Transit:	10h40	10h57	
		Sets:	17h11	16h50	
Mars Magnitude Phase Diameter	Taurus +1.4 to +1.6 94% to 96% 5" to 4"	Rises:	10h57	10h33	Evening
		Transit:	15h59	15h25	
		Sets:	21h00	20h16	
Jupiter Magnitude Diameter	Ophiuchus -2.2 to -2.5 40" to 43"	Rises:	22h29	20h28	Throughout the night
		Transit:	05h41	03h41	
		Sets:	12h50	10h49	
Saturn Magnitude Diameter	Sagittarius +0.6 to +0.5 16" to 17"	Rises:	00h27	22h28	Morning
		Transit:	07h32	05h36	
		Sets:	14h36	12h41	
Uranus Magnitude Diameter	Aries +5.9 3"	Rises:	08h32	06h42	Too close to the sun
		Transit:	14h02	12h11	
		Sets:	19h32	17h39	
Neptune Magnitude Diameter	Aquarius +8.0 to +7.9 2"	Rises:	05h01	03h08	Morning
		Transit:	11h19	09h25	
		Sets:	17h38	15h42	
Pluto Magnitude	Sagittarius +14.3	Rises:	00h40	22h39	Morning
		Transit:	07h45	05h48	
		Sets:	14h51	12h53	

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 Antares (in Scorpius) at +1.05 and the planet Jupiter, at (for example) magnitude -2.2. The latter is considerably brighter than Antares as 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

Lunar Highlight :

POSIDONIUS

Type: Crater.

Diameter: 95 Km

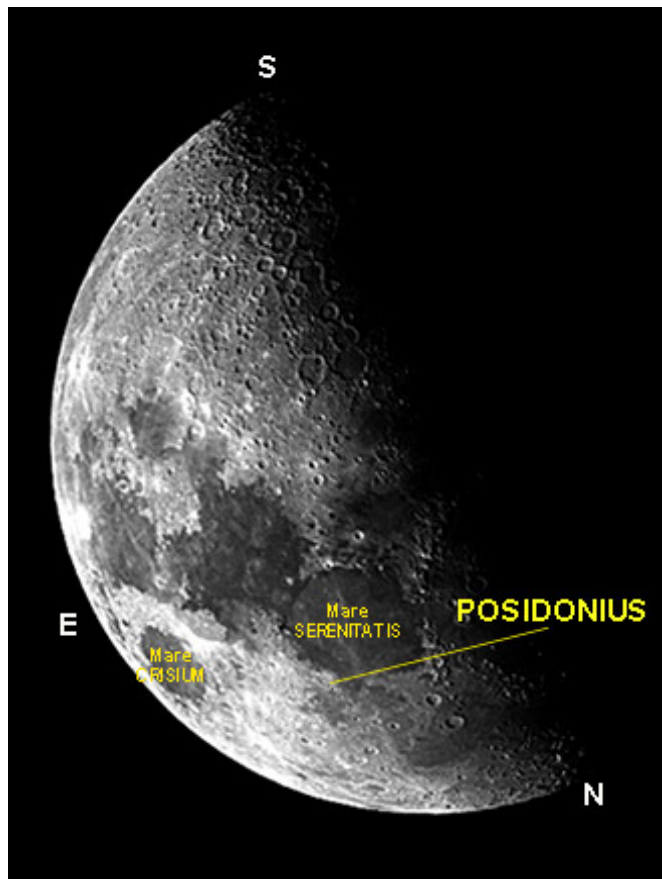
Depth: 2.3 Km

Notes: The rim of Posidonius is shallow and obscured, especially on the western edge, and the interior has been overlain by a lava flow in the past. The crater ramparts can still be observed to the south and east of the crater rim, and to a lesser degree to the north. The crater Chacornac is attached to the southeast rim, and to the north is Daniell.

Named after ancient Greek philosopher and geographer Posidonius of Apamea.

Best seen: about 11 April and 24 April

Location: North-eastern edge of **Mare Serenitatis**.



ECLIPSES (visible from Southern Africa) : No eclipses, solar or lunar, are predicted for this month

METEOR SHOWERS

Name	Date & Time of Max	Duration	Radiant	ZHR velocity		Observing Prospect
				ZHR	velocity	
δ Pavonids	6 th April 02h00 to 04h30	11 th March to 16 th April	Constellation Pavo , close to s. horizon	5	59	Favourable
April Lyrids	22 nd April 02h00 to 05h00	16 th to 25 th April	10° south-west of Vega (α Lyr) (see chart below)	15	49	Unfavourable

Guide to the table above:

ZHR – zenithal hourly rate
vel. - velocity in km per second

For more details regarding meteor watching, please see the Sky Guide Africa South (SGAS), pages 86- 87.

Lyra and Hercules, on the chart to right, rise at about 02h00. The moon, on 22nd, is 89% illuminated and is the reason for the “unfavourable” prospect.



4. STARGAZING

SUGGESTED OBSERVATION DAYS

Unless *specifically* targeting the moon, may I suggest the most convenient dates to plan evening stargazing are from **25th March** (moonrise 22h06) to **8th April** (moonset 20h39) , then from **24th April** (moonrise 22h18) to **6th May** (moonset 19h20).



The next club stargazing evening is yet to be scheduled. Members will receive updated information by e-mail (and, remember, it's always weather dependant!). Please check our website calendar closer to the date for confirmation and venue. (<http://www.hermanusastronomy.co.za>)

DEEP SKY HIGHLIGHTS

The **Small Magellanic Cloud (SMC)**, or *Nubecula Minor*, is a dwarf galaxy near the Milky Way. Classified as a dwarf irregular galaxy, the SMC has a diameter of about 7,000 light-years, contains several hundred million stars, and has a total mass of approximately 7 billion solar masses. The SMC contains a central bar structure and is speculated to once have been a barred spiral galaxy that was disrupted by the Milky Way to become somewhat irregular. The SMC is among the nearest intergalactic neighbours of the Milky.

Visible from the entire Southern Hemisphere, it can be fully glimpsed low above the southern horizon from latitudes south of about 15° north. The galaxy is located across both the constellations of Tucana and part of Hydrus, appearing as a faint hazy patch resembling a detached piece of the Milky Way. Apparently, the SMC has an average diameter of about 4.2° (8 times the Moon's) and thus covers an area of about 14 square degrees (18 times the Moon's). Since its surface brightness is very low, this deep-sky object is best seen on clear moonless nights and away from city lights. The SMC forms a pair with the Large Magellanic Cloud (LMC), which lies 20° to the east, and like the LMC, is a member of the Local Group and highly probably is a satellite of the Milky Way.

Small Magellanic Cloud (NGC 292)

Description dwarf irregular galaxy

Distance About 200,000 LY

Location located across both the constellations of Tucana and part of Hydrus

J2000 coordinates Lat. -72°50'
Long. 00h53'

Guide star 16° east of Achernar (α Eri)

Visibility

Naked eye Yes on a clear night

Binoculars & Telescopes Yes

47 Tuc (NGC 104)

Globular cluster

About 13,000 LY

2.6° south-south-west of SMC

Lat. -72°03'
Long. 00h24'

47 Tucanae is the second brightest globular cluster after Omega Centauri, and telescopically reveals about ten thousand stars, many appearing within a small dense central core. The cluster may contain an intermediate-mass black hole

Tucana
The toucan

Genitive: Tucanae

Abbreviation: Tuc

Size ranking: 48th

Origin: The 12 southern constellations of [Keyser and de Houtman](#)

One of the 12 southern constellations devised by the Dutch navigators Pieter Dirkszoon Keyser and Frederick de Houtman at the end of the 16th century. It represents the South American bird with a huge bill.

The Dutchman Petrus Plancius gave it the name Toucan when he first depicted it on a globe in 1598, and Johann Bayer followed suit on his atlas of 1603. But de Houtman, in his catalogue of 1603, called it Den Indiaenschen Exster, op Indies Lang ghenamemt ('the Indian magpie, named Lang in the Indies', the word 'lang' referring to the bird's long beak). De Houtman was apparently describing not a toucan but the hornbill, a similarly endowed bird that is native to the East Indies and Malaysia. This suggests that the original inventor of Tucana was in fact Keyser, who had visited South America before his voyage to the East Indies and could have seen the bird there. In some depictions which used de Houtman's catalogue as a source, such as Willem Janszoon Blaeu's globe of 1603, the bird was shown as a hornbill rather than a toucan, complete with casque above its bill, but the original identification as a toucan won out.

Tucana's brightest star, Alpha Tucanae, marking the tip of the bird's beak, is of only third magnitude, but the constellation is distinguished by two features of particular interest: firstly, the globular star cluster 47 Tucanae, rated the second-best such object in the entire sky, so bright that it was labelled in the same way as a star; and the Small Magellanic Cloud, the smaller and fainter of the two companion galaxies of our Milky Way. These features were originally part of Hydrus but were transferred to Tucana when the French astronomer Nicolas Louis de Lacaille reorganized this part of the southern heavens in the 1750s.

Incidentally, 47 Tucanae is not a Flamsteed number; it comes from its listing in Johann Bode's catalogue called Allgemeine Beschreibung und Nachweisung der Gestirne, published in 1801 to accompany his Uranographia star atlas. It was first recorded as a star by Keyser and de Houtman. Bayer showed it on his southern star chart of 1603 within one of the coils of Hydrus, beneath the claw of the toucan, but its nebulous nature was first noted by Lacaille a century and a half later.

None of the stars of Tucana is named and there are no legends associated with it.

Please keep in touch...

Don't forget to have a look at our excellent website, edited by Derek Duckitt.

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

Also...

ASSA website <http://assa.saa.ac.za>

[ASSA Deep-Sky Section](#)

Whatsapp chat group: [074 100 7237]

[MNASSA http://assa.saa.ac.za/about/publications/mnassa/](http://assa.saa.ac.za/about/publications/mnassa/)

[Nightfall https://assa.saa.ac.za/?s=Nightfall](https://assa.saa.ac.za/?s=Nightfall)

[Official Big 5 of the African Sky web page](#)

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