

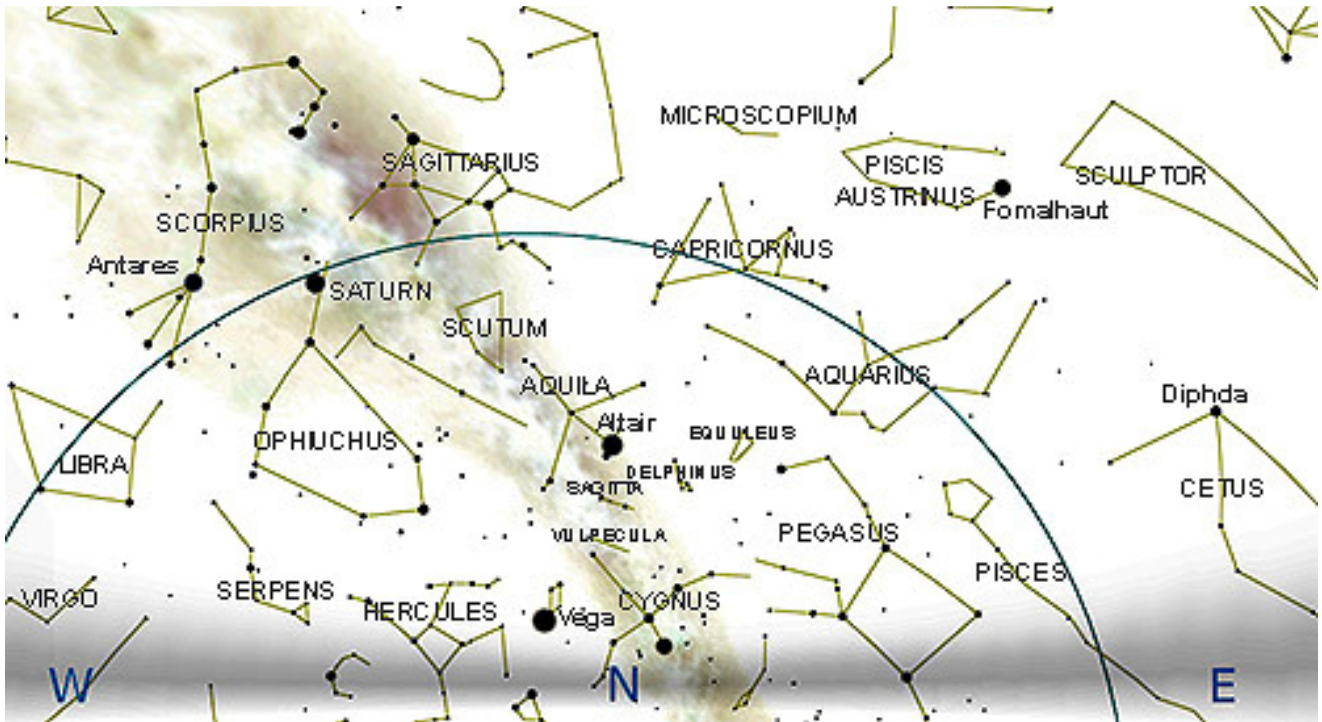


SEPTEMBER 2017

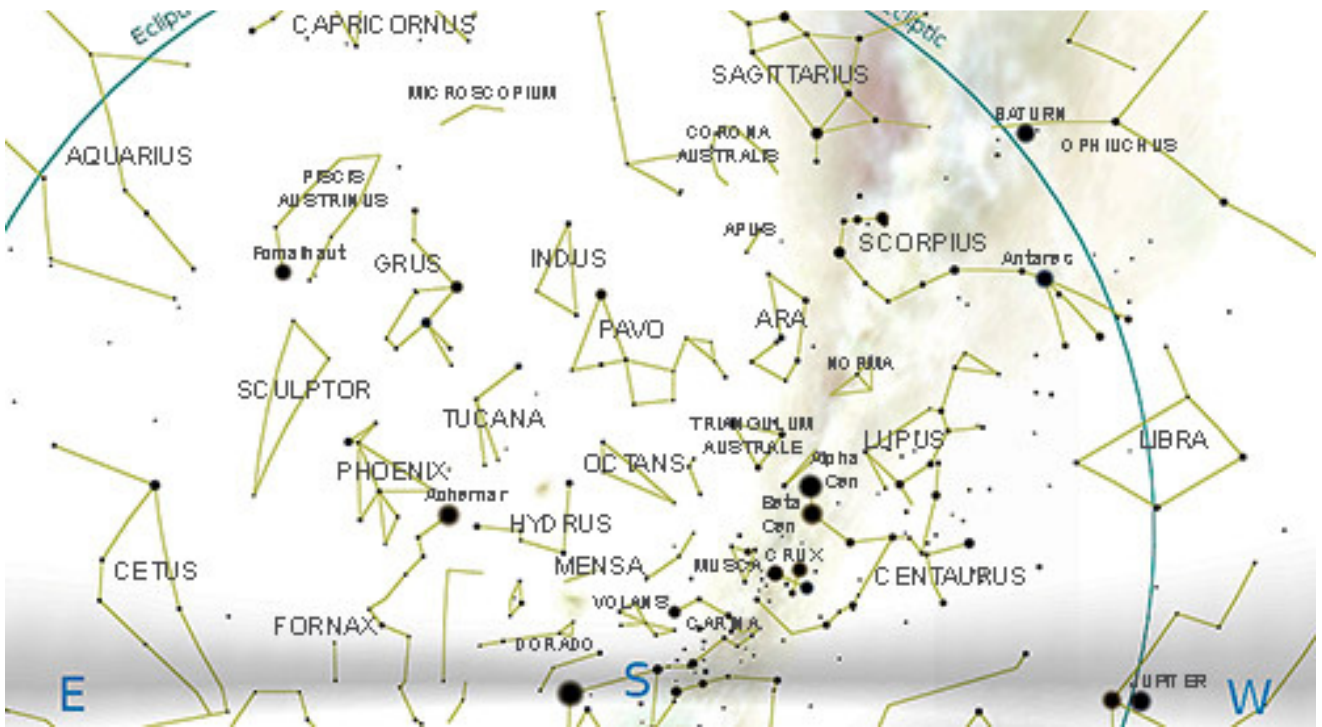


1. SKY CHARTS

EVENING SKY MID SEPTEMBER at 21^h00 (NORTH DOWN)



EVENING SKY MID SEPTEMBER at 21^h00 (SOUTH DOWN)



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

2. THE SOLAR SYSTEM

PLANET VISIBILITY

Mercury	Visible low in the east before sunrise then moving too close to the Sun
Venus	The "Morning Star"
Mars	Visible low in the east before sunrise
Jupiter	Visible in the evening becoming low in the west after sunset
Saturn	Visible in the evening
Uranus	Visible in the morning becoming visible throughout the night
Neptune	Visible throughout the night
Pluto	Visible in the evening

<i>Sun & Planets</i>	<i>SEPTEMBER 2017</i>		<i>1st</i>	<i>30th</i>
Sun Constellation Length of day	Leo to Virgo 11h 23m to 12h 24m	Rises:	07h02	06h21
		Transits:	12h43	12h33
		Sets:	18h25	18h46
Mercury phase Constellation Magnitude	φ 10" to 5" 7% to 97% Leo to Virgo +2.8 to -1.3	Rises:	06h26	06h12
		Transits:	12h03	12h11
		Sets:	17h39	18h12
Venus phase Constellation Magnitude	φ 12" to 11" 84% to 91% Cancer to Leo -4.0 to -3.9	Rises:	05h29	05h23
		Transits:	10h40	11h04
		Sets:	15h50	16h45
Mars phase Constellation Magnitude	φ 4" 100% to 99% Leo +1.8	Rises:	06h36	05h32
		Transits:	12h00	11h16
		Sets:	17h26	17h00
Jupiter Constellation Magnitude	φ 32" to 31" Virgo -1.7	Rises:	09h00	07h22
		Transits:	15h23	13h51
		Sets:	21h46	20h19
Saturn Constellation Magnitude	φ 17" to 16" Ophiuchus +0.4 to +0.5	Rises:	1215	10h25
		Transits:	1921	17h31
		Sets:	0231	00h41
Uranus Constellation Magnitude	φ 4" Pisces +5.7	Rises:	22h10	20h11
		Transits:	03h47	01h50
		Sets:	09h21	07h24
Neptune Constellation Magnitude	φ 2" Aquarius +7.8	Rises:	18h34	16h37
		Transits:	01h01	23h00
		Sets:	07h23	05h27
Pluto Constellation Magnitude	Sagittarius + 14.2	Rises:	14h08	12h13
		Transits:	21h12	19h17
		Sets:	04h21	02h26

Notes to the table above

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** (ϕ) is given in arc seconds ($"$). This is the apparent size of the object as we see it from Earth. To illustrate this point, consider the average binoculars through which we see about 7° of sky. Therefore, for example, Mars at $19''$ on 1st May would cover approximately $1/1300^{\text{th}}$ of the field of view.

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 magnitude -1.9. 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 to the horizon directly south.

THE MOON

Lunar Highlight (information from the 2017 *Sky Guide Africa South*):

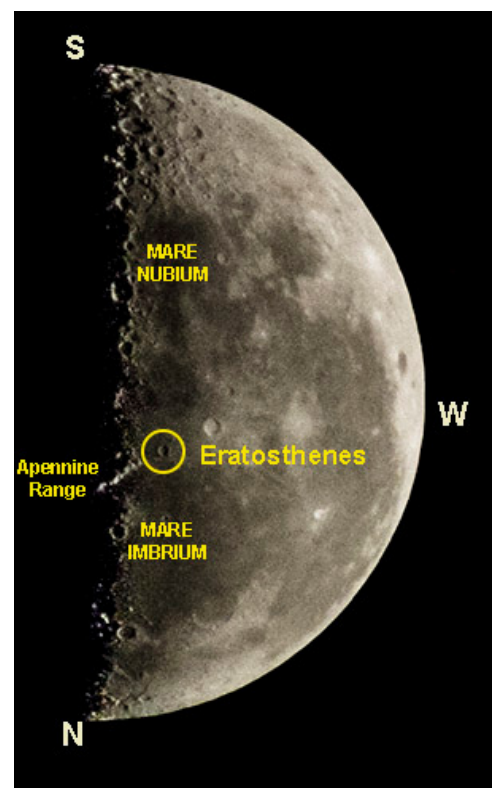
Eratosthenes

Type: Crater with very high walls rising up some 3.6 km and a central mountain with several summits.

Diameter: 60 km.

Notes: Named for the 3rd century BCE Greek mathematician and philosopher Eratosthenes, first scholar to calculate the circumference of the earth.

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



Eclipses (visible from Southern Africa):

No eclipses, solar or lunar, are predicted for this month.

METEOR SHOWERS

There are no significant meteor showers predicted for this month.

3. HIGHLIGHTS FROM THE SKY GUIDE

<i>Date</i>	<i>Time</i>	<i>Item</i>
1		Moon furthest south (19.4°) and near Pluto
		Venus near the Beehive cluster (M44)
3		Mercury near Mars
4		Mercury stationary
5		Mars near Regulus
		Neptune at opposition
6	09h03	Full Moon , near Neptune
9		Moon near Uranus
10		Mercury near Regulus , Jupiter near Spica
12		Mercury at maximum western elongation (17.9°). Jupiter near Spica .
13	08h25	Last Quarter Moon at perigee (369 855 km)
14		Moon furthest north (+19.4)
15		Mercury at perihelion
		Comet P/2010 H2 (Vales) at perihelion (3.1 AU, 7.5 years)
16		Moon near the Beehive cluster (M44)
		Mercury and Mars in conjunction (3' apart, elongation 17 west)
17		Venus near Moon at noon ¹
18		Moon near Mars
19		Moon near Mercury
20	07h30	New Moon
		Venus near Regulus
22	22h02	<i>Vernal Equinox</i>
		Moon near Jupiter
24		Comet 213P/Van Ness at perihelion (1.98 AU, 6.1 years)
25		Mercury greatest latitude north
		Pallas stationary
27		Moon at apogee (404 341 km)
		Moon near Saturn
		Vesta in conjunction with Sun.
28	04h54	First quarter Moon , furthest south (-19.5°)
		Pluto stationary
29		Moon near Pluto
		Comet 263P/Gibbs at perihelion (1.26 AU, 5.4 years)

*** Advance warning:

Spring 2017 Southern Star Party

The 14th SSP will be held from 18 to 23 **October** 2017 at Leeuwenboschfontein Guest Farm, off the R318, Touws River, 6880.

Due to popular demand, the star party has been extended by several days to allow for more personal observing time. The formal programme runs from the 20th to the morning of the 22nd of October, but everyone is encouraged to spend some more time under the stars - from Wednesday October 18 to Monday, October 23.

Don't forget to make your early-bird booking!

Contact e-mail: info@southernstarparty.org

4. STARGAZING

SUGGESTED OBSERVATION DAYS FOR SEPTEMBER:

Unless specifically targeting the moon, I suggest the most convenient dates to plan evening stargazing in September are 9th (moonrise 21h54) to 22th (moonset 20h56).



The next club stargazing evening is yet to be planned.

More information will be posted in due course to members' e-mail addresses and on our website

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

By the way ...

[from the ASSA website <http://assa.saao.ac.za>]

During a recent meeting of ASSA Council, the Overbeek Award was formalized.

The Overbeek Medal is to be given to any amateur ASSA member who has had his/her observational astronomy published in a recognized astronomical journal, including the Monthly Notes of the Astronomical Society of Southern Africa, MNASSA. (Read more on the website)

If any member has had this award please let me know; we'd like the other members to know about it!



DEEP SKY HIGHLIGHT (from the Sky Guide Africa South)

Last month we did the Sky Guide's choice for September so let's look at the choice for August: **Ptolemy's Cluster** (M7, NGC6475, magnitude 3.3) is now a little lower in the sky and more accessible for binocular viewing.



We find M7 about 5° north-east of the sting of Scorpius near the border of Sagittarius. It is "a naked-eye nebulous patch revealed in binoculars as a large, scattered cluster of bright stars. It was recorded as far back as the second century by the Egyptian astronomer Ptolemy. La Caille in the 1750s drew attention to the striking linear arrangements of its stars, echoed by the late E. J. Hartung who noted it was "a remarkable sight in a large field with its structure of quadrant and straight lines."

SCORPIUS

Genitive:Scorpii

Abbreviation:Sco

Size ranking:33rd

Origin:One of the 48 Greek constellations listed by Ptolemy in the [Almagest](#)

Greek name: Σκορπίος

'There is a certain place where the scorpion with his tail and curving claws sprawls across two signs of the zodiac', wrote Ovid in his *Metamorphoses*. He was referring to the ancient Greek version of Scorpius, which was much larger than the constellation we know today. The Greek scorpion was in two halves: one half contained its body and sting, while the front half comprised the claws. The Greeks called this front half *Chelae*, which means 'claws'. In the first century BC the Romans made the claws into a separate constellation, *Libra*, the Balance.

In mythology, this is the scorpion that stung Orion the hunter to death, although accounts differ as to the exact circumstances. Eratosthenes offers two versions. Under his description of Scorpius he says that Orion tried to ravish Artemis, the hunting goddess, and that she sent the scorpion to sting him, an account that is supported by Aratus. But in his entry on Orion, Eratosthenes says that the Earth sent the scorpion to sting Orion after he had boasted that he could kill any wild beast. Hyginus also gives both stories. Aratus says that the death of Orion happened on the island of Chios, but Eratosthenes and Hyginus place it in Crete.

In either case, the moral is that Orion suffers retribution for his hubris. This seems to be one of the oldest of Greek myths and the origin may lie in the sky itself, since the two constellations are placed opposite each other so that Orion sets as his conqueror the scorpion rises. But the constellation is much older than the Greeks, for the Sumerians knew it as GIR-TAB, the scorpion, over 5000 years ago.

Scorpius clearly resembles a scorpion, particularly the curving line of stars that form its tail with its sting raised to strike. Old star maps show the lower left leg and foot of Ophiuchus, to the north, awkwardly overlapping the scorpion's body. Incidentally, Scorpius is the modern astronomical name for the constellation; Scorpio is the old name, now used only by astrologers. The name in Greek was Σκορπίος, as used by Ptolemy in the *Almagest*.

Stars of Scorpius

The brightest star in Scorpius is brilliant Antares, from the Greek word Αντάρης, meaning 'like Mars', on account of its strong reddish-orange colour, similar to that of the planet Mars. The name is often translated as 'rival of Mars', but the star name expert Paul Kunitzsch prefers the translation 'like Mars'. Antares is a remarkable supergiant star, several hundred times the diameter of our Sun.

Beta Scorpii is officially named Acrab, from the Arabic for 'scorpion'; an alternative name is Graffias, Latin for 'claws'. Delta Scorpii is called Dschubba, a strange-sounding name that is a corruption of the Arabic word meaning 'forehead', in reference to its position in the middle of the scorpion's head. At the end of the scorpion's tail lies Lambda Scorpii, called Shaula from the Arabic meaning 'the sting' which is where Ptolemy described it as lying.

Ptolemy in the *Almagest* listed three stars as lying outside the constellation (i.e. they were so-called unformed stars). The first of these he described as 'The nebulous star to the rear of the sting'. This is most likely the large and bright open cluster we know as M7, which as a result is sometimes called Ptolemy's Cluster. M7 is the most southerly of the objects listed by Charles Messier, at declination -34.8° .

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]

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

[Official Big 5 Facebook group](#)

[ASSA Deep-Sky Section mailing list](#)

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 [ASSA Info mailing list](#) and the [ASSA Discussion mailing list](#).

Grateful thanks to the following, without whom this publication just would not be the same:

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