



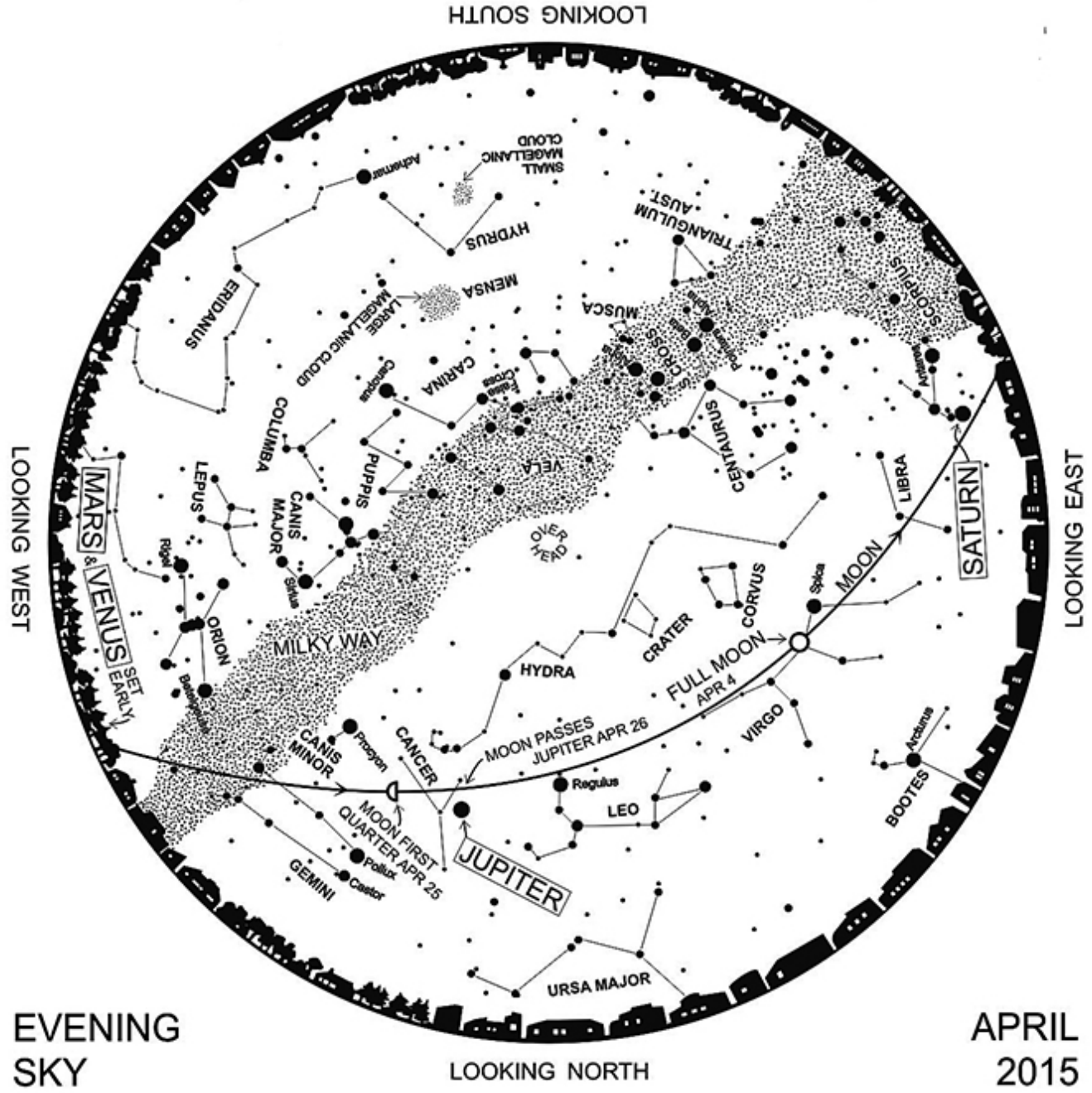
HERMANUS ASTRONOMY CENTRE

THE SKY THIS MONTH : APRIL 2015

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

1. SKY MAPS

EVENING SKY MID APRIL at 21^h00



All times quoted below are given in the 24-hour format South African Standard Time (SAST).

2. THE SOLAR SYSTEM

| <i>Sun & Planets</i> | <i>April 2015</i> | | <i>1st</i> | <i>30th</i> |
|--|-------------------|--|-----------------------|------------------------|
| Sun Constellation: Pisces to Aries Length of day 11h 43m | Rises: | | 06h56 | 07h18 |
| | Transits: | | 12h47 | 12h41 |
| | Sets: | | 18h39 | 18h03 |
| Mercury phase 96% to 57% , ϕ 5'' to 7'' Constellation Pisces to Taurus Magnitude: -0.4 to -1.1 | Rises: | | 06h12 | 08h58 |
| | Transits: | | 12h18 | 13h57 |
| | Sets: | | 18h23 | 18h55 |
| Venus phase 78% to 68% ϕ 14'' to 17'' Constellation: Aries to Taurus Magnitude: -4.0 | Rises: | | 09h55 | 10h47 |
| | Transits: | | 15h07 | 15h34 |
| | Sets: | | 20h18 | 20h21 |
| Mars phase 99% - 100% ϕ 4'' Constellation: Aries Magnitude +1.4. | Rises: | | 08h29 | 08h18 |
| | Transits: | | 13h59 | 13h28 |
| | Sets: | | 19h30 | 19h38 |
| Jupiter ϕ 41'' to 38'' Constellation: Cancer Magnitude: -2.3 to -2.1 | Rises: | | 15h55 | 14h03 |
| | Transits: | | 21h06 | 19h14 |
| | Sets: | | 02h21 | 00h30 |
| Saturn ϕ 18'' Constellation: Scorpius Magnitude: +0.3 to +0.1 | Rises: | | 21h19 | 19h20 |
| | Transits: | | 04h19 | 02h20 |
| | Sets: | | 11h16 | 09h15 |
| Uranus ϕ 3'' Constellation: Pisces Magnitude: +5.9 | Rises: | | 07h20 | 05h34 |
| | Transits: | | 13h06 | 11h18 |
| | Sets: | | 18h52 | 17h02 |
| Neptune ϕ 2'' Constellation: Aquarius Magnitude: + 8.0 to +7.9 | Rises: | | 04h21 | 02h31 |
| | Transits: | | 10h48 | 08h57 |
| | Sets: | | 17h14 | 15h23 |
| Pluto Constellation: Sagittarius Magnitude: +14.2 to +14.1 | Rises: | | 00h12 | 22h14 |
| | Transits: | | 07h13 | 05h19 |
| | Sets: | | 14h14 | 12h20 |

3. THE MOON

Eclipses: No eclipses, solar or lunar, are visible from the Western Cape this month.

4. HIGHLIGHTS FROM THE SKY GUIDE

| <i>Date</i> | <i>Time</i> | <i>Item</i> |
|-------------|-------------|--|
| 4 | 14h05 | Full Moon. Moon near Spica |
| 6 | | δ Pavonid meteor shower maximum (see below) |
| 6 | | Comet 88P Howell at perihelion |
| 7 | 20h39 | Moon occults γ Lib ¹ |
| 8 | | Mercury near Uranus ² |

| | | |
|----|-------|--|
| 12 | | Yuri's Night³ |
| 12 | 05h44 | Last quarter Moon |
| 18 | 20h57 | New Moon. Moon near Uranus |
| 19 | | Moon near Mars |
| 21 | 19h00 | Moon in The Hyades near Aldebaran and Venus⁴ |
| 22 | | Earth Day⁵ |
| 22 | 03h30 | April Lyrid meteor shower maximum (see below) |
| 23 | | Mercury near Mars |
| 23 | 21h00 | π Puppids meteor shower max (see below). Moonset 23h12 |
| 26 | 01h55 | First quarter Moon. Moon near Spica |
| 28 | | Moon near Regulus |

¹ bright limb occultation (3 days past Full Moon) and very close to the horizon. A tough one to spot!

² too close to the Sun to observe

³ **Yuri's Night** is an international celebration held every 12th April to commemorate milestones in space exploration. Often called the "World Space Party", it is named for the first human to launch into space, **Yuri Gagarin**, who flew the Vostok 1 spaceship on April 12, 1961. The launch of STS-1, the first Space Shuttle mission, is also honoured as it was launched 20 years to the day of Vostok 1 on April 12, 1981. In 2013, Yuri's Night was celebrated at over 350 events in 57 countries. – extract from *Wikipedia*

⁴ about 45 minutes after sunset, this will be a beautiful grouping just above the western horizon (if the weather be good).

⁵ Earth Day is an annual event, celebrated on April 22, on which day events worldwide are held to demonstrate support for environmental protection. It was first celebrated in 1970, and is now coordinated globally by the Earth Day Network, and celebrated in more than 192 countries each year.

5. METEOR SHOWERS

| Name | Date & Time of Max | Duration | Radiant | ZHR vel. | | Observing Prospect |
|-------------------------------------|--|---|---|----------|------|-------------------------|
| | | | | ZHR | vel. | |
| δ Pavonids | 6 th April 02h00 to 04h30 | 12 th March to 16 th April | 3° NE of +3.4 mag β Pavonis | 5 | 59 | Unfavourable |
| April Lyrids | 22 nd April 02h00 to 05h00 | 16 th to 25 th April | 5° south of +3.85 mag θ Herculis | 15 | 49 | Favourable ¹ |
| π Puppids | 23 rd April 19h00 to 23h00 | 15 th to 28 th April | About 11.5° NE of Canopus (α Carinae) | <5 | 18 | Good ² |

¹ about 12° above the horizon on azimuth NNE. In Hermanus, one would need to observe from as far from the mountain as possible or atop the ridge!

² there may be some interference from the Moon (setting at 22.12 on 23rd) but it will be behind our right shoulder. The hourly rate is not great but isn't it a treat not to have to wait until 02h00? Worth a try.

Key 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 for Africa South (SGAS) pp. 86 – 87

6. THE PLANETS

Mercury is not visible in early April, being too close to the Sun, but appears in the last week of the month just after sunset. **Venus** is once again the 'Evening Star', still closely accompanied by **Mars**. **Jupiter** is well placed for all-night viewing throughout the month. **Saturn**, rising at 21h19 at the beginning of the month and ever earlier as the month progresses, enters the stage on the eastern horizon. Early in April, **Uranus** is too close to the Sun to observe but appears in the early morning sky later in the month. **Neptune** and **Pluto** can be seen all month in the morning sky by the well-equipped observer.

7. GALAXY OF THE MONTH – THE MILKY WAY

*The Galaxy offers an amazing range of different types of objects to be observed and ... allows all sorts of observations to be undertaken for sheer enjoyment, rather than for serious 'scientific' purposes. The naked eye is more than adequate – indeed it is admirably suited – to take in the overall splendour of the Milky Way itself in its course across the sky, provided dark sky conditions can be found away from the bane of street lighting. Those persons who are fortunate enough to live ... south of the Equator, where the magnificent star clouds of the Milky Way stretch from Sagittarius all the way round to Carina, are indeed to be envied. [Extracted from one of our library books, **Amateur Astronomy** (kindly donated by Salette Crighton)]*

So there you have it: we are sometimes the envy of the Northern Hemisphere. And here we are in the Overberg, out in 'sticks', away from the city and only, at most, 10 minutes from dark skies. Just how lucky can we get?

We hear people speak of "The Big 5" and lions and elephants, etc., come to mind. But we now hear the same phrase applied to our wild African skies. I paste below an extract from "Nightfall" – the deep-sky observing newsletter of the ASSA.

THE BIG 5 OF THE AFRICAN SKY

What are the Big 5?

The Big 5 of the African Sky are five celestial objects that represent the best specimens of each type of deep-sky class: the **Southern Pleiades** (an open star cluster), **omega Centauri** (a globular cluster), the **eta Carinae Nebula** (a bright nebula), **the Coal Sack** (a dark nebula) and **the Milky Way** (a galaxy).

Where can I see the Big 5?

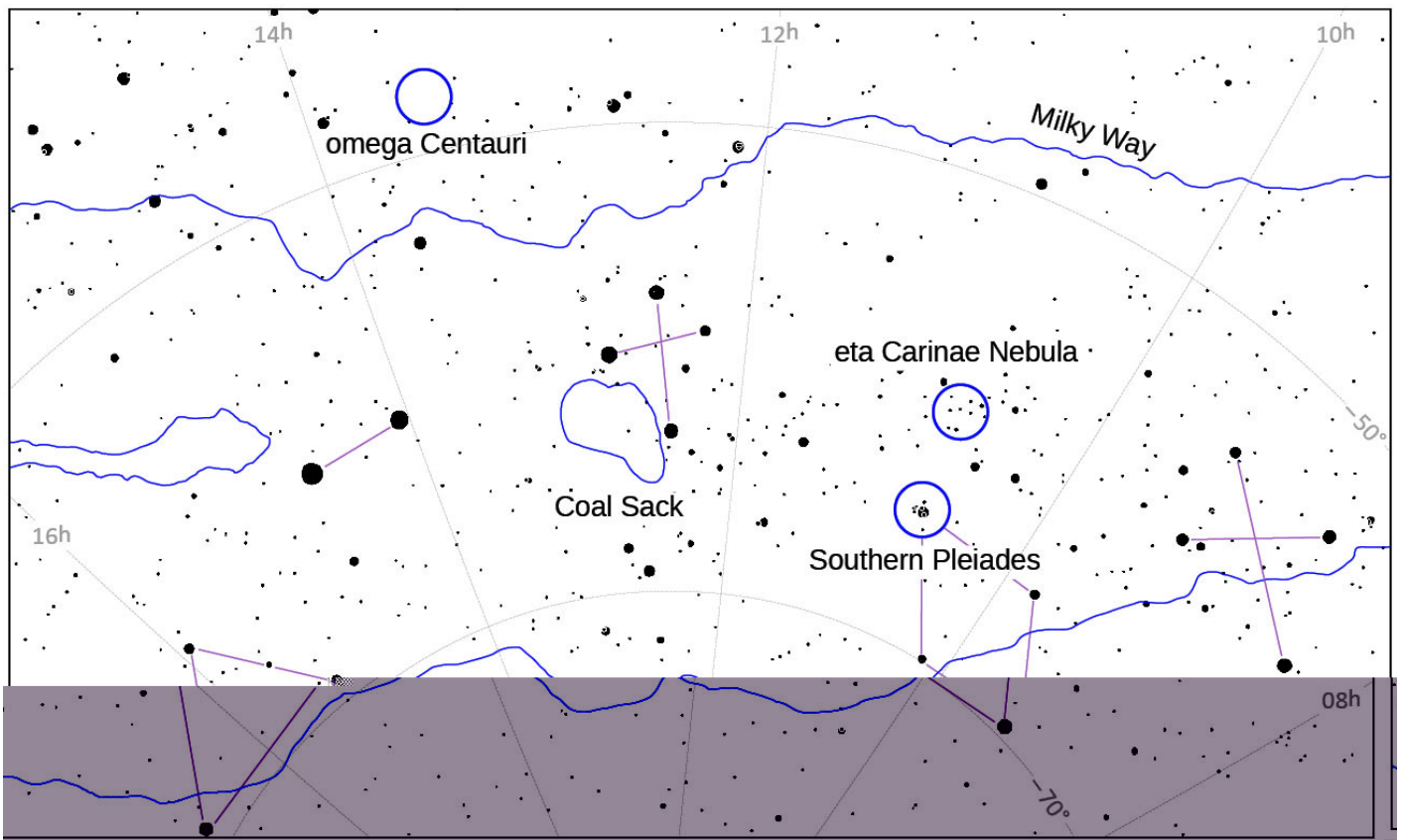
The Big 5 are visible anywhere from within the southern hemisphere. Two of the Big 5 lie in Carina, one lies in Centaurus, and one in Crux. The fifth – the Milky Way – lies in a narrow band dividing the sky in half. The brightest parts of the Milky Way are in Sagittarius, Scutum, Norma and Carina.

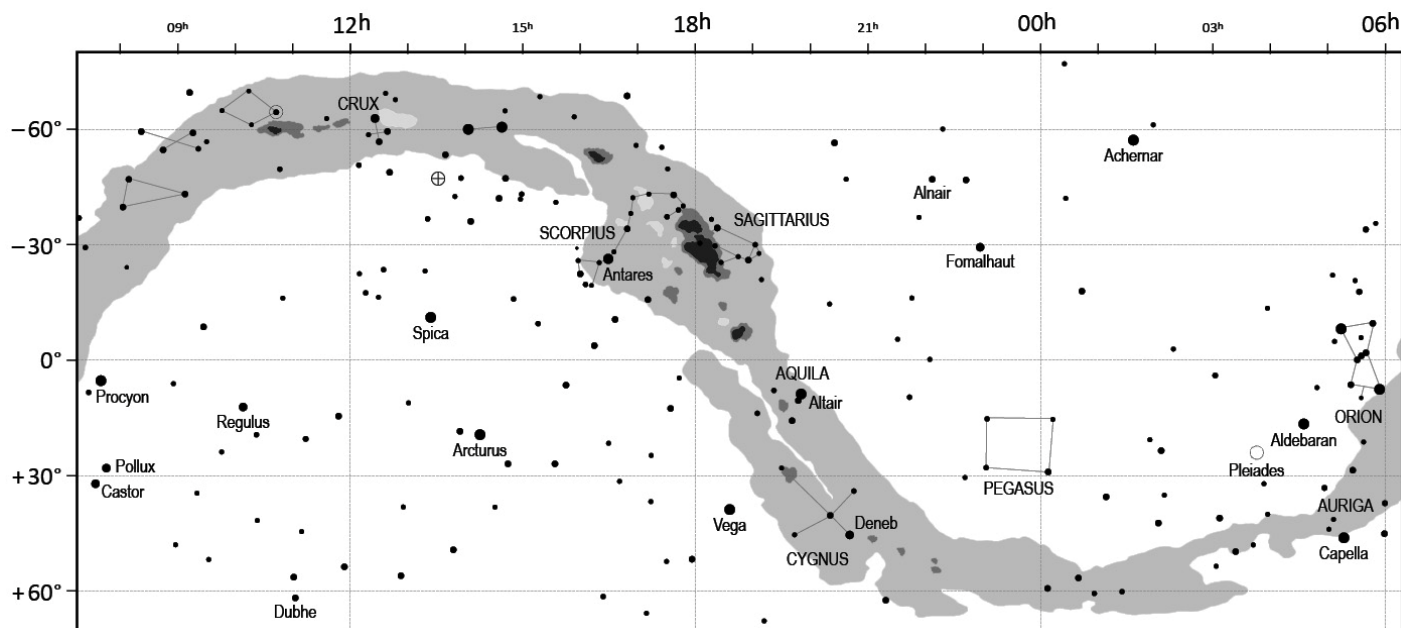
The accompanying table gives their celestial coordinates and basic data. Two star maps illustrate their general location, with one map devoted specifically to the Milky Way.

Basic stats of the Big 5 of the African Sky

| Object names & catalogue designations | Type | RA & Dec (J2000.0) | Constellation |
|---|------------------|--------------------------------|---------------|
| Southern Pleiades, IC 2602, Lac II.9 | open cluster | 10h 43.2m, $-64^{\circ} 24.0'$ | Carina |
| eta Carinae Nebula, NGC 3372, Lac III.5/6 | bright nebula | 10h 44.3m, $-59^{\circ} 53.4'$ | Carina |
| Coal Sack, Caldwell 99 | dark nebula | 12h 31.3m, $-63^{\circ} 44.6'$ | Crux |
| omega Centauri, NGC 5139, Lac I.5 | globular cluster | 13h 26.8m, $-47^{\circ} 28.6'$ | Centaurus |
| Milky Way, the Galaxy, Via Lactea † | galaxy | 10h 45m, -60° | Carina |
| “ | “ | 16h 18m, -53° | Norma |
| “ | “ | 18h 00m, -29° | Sagittarius |
| “ | “ | 18h 45m, -07° | Scutum |
| “ | “ | 19h 30m, $+30^{\circ}$ | Cygnus |

† The Milky Way circles the entire sky so a single position cannot represent it. The last five rows of the table list the positions of the five brightest portions. The Galactic centre is in Sagittarius.





When can I see the Big 5?

All five objects will not be visible at the same time. This is mainly because the Milky Way is a large object and it will take more than one session to see it at its full extent. There are a number of tools you can use to find out when a particular region of sky is visible. You could, for example, use the Southern Star Wheel planisphere, a free DIY download. Your favourite planetarium program (e.g. “Stellarium”) or app (e.g. “Google Sky Map”, “Sky Safari”) are also great options. The following table gives a general indication of when the Big 5 can be seen.

Visibility periods

| Big 5 | Evening visibility | Midnight visibility | Morning visibility |
|--------------------|-----------------------|-----------------------|-----------------------|
| Southern Pleiades | Jan to late-Aug | mid-Nov to early Jul | mid-Sep to early May |
| eta Carinae Nebula | early Jan to mid-Aug | late Nov to early Jul | late Sep to early May |
| Coal Sack Nebula | Feb to late-Sep | mid-Dec to early Aug | mid-Oct to early Jun |
| omega Centauri | Mar to mid-Sep | mid-Jan to early Aug | mid-Nov to early Jun |
| Milky Way (Car) | early Jan to mid-Aug | late Nov to early Jul | late Sep to early May |
| Milky Way (Nor) | early Apr to end-Oct | late Feb to mid-Sep | late Dec to mid-Jul |
| Milky Way (Sgr) | late May to early Nov | mid-Apr to late Sep | mid-Feb to late Jul |
| Milky Way (Sct) | late Jun to early Nov | early May to late Sep | Mar to late Jul |
| Milky Way (Cyg) | early Aug to mid-Oct | late Jun to late Aug | late Apr to early Jul |

Keep in touch

[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!](#)

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Sky Guide for Southern Africa 2015

Stellarium

NASA's website on SOHO