

NAMIBIA Scientific Society Wissenschaftliche Gesellschaft

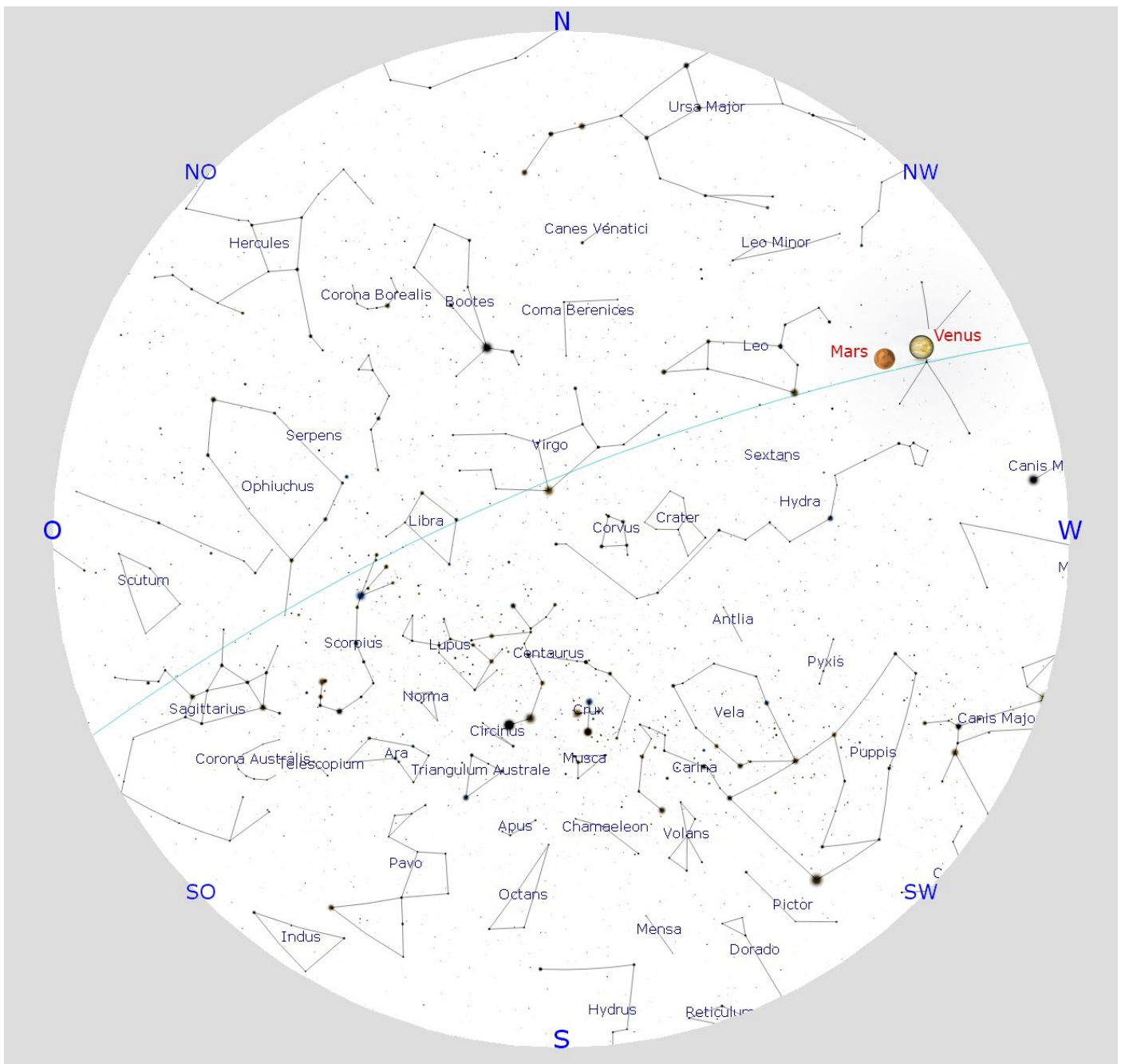
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110 Robert Mugabe Ave., Windhoek, Namibia

Astronews June 2023

©2022/2023 by Wolfgang Paech + Franz Hofmann, Team Chamäleon - Onjala + Rooisand Observatory, Namibia
for Namiba Scientific Society, English version by Irene Bader



Night sky above Windhoek during June 2023

Moon Phases

June 5 Full Moon

June 10 Last Quarter

June 18 New Moon

June 26 First Quarter

Scorpio will be clearly visible in the east after sunset. Throughout the month you can enjoy the visibility of brilliant Venus as the evening star in the northwest. Reddish Mars is nearby and the pair is moving towards each other. Right at the beginning of the month, Mars will be situated right in the middle of the Beehive Cluster or M44. Venus will move towards the Beehive as well, best visible around June 13. Saturn will only be visible at midnight in the east and will move high up into the sky before sunrise. During morning hours try to find beautiful Jupiter as the morning star in the northeast. Just below it look out for Mercury, which will slip beyond the horizon later in the month.

Did you know?

All stars start their lives as hot balls of gas that have contracted down from bigger clumps of gas and dust under the influence of gravity. However, a triggering event is needed to start such a contraction, which could be a nearby supernova explosion, the passage of the original interstellar cloud through other stellar matter or even an encounter with another star. Tidal forces and huge pressure waves are formed, compressing parts of the matter in the interstellar cloud until the developing knot becomes dense enough for stars to form. As gravity is adding more force by pulling more and more material into the centre of the newborn star, it will start spinning around a single axis, leading to the collision of particles inside the core. Temperatures will rise due to these collisions so that the newborn star will start to glow in infrared light.

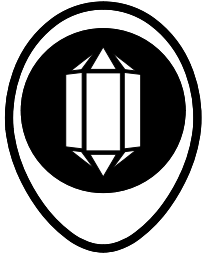
At this stage, such a newborn star is quite unstable. It loses a lot of its mass by expelling gas and dust until it becomes so hot in its core that nuclear fusion can start, leading to a balancing equalisation between gravitational forces and outward pressure. At this stage, the star finally can get settled as a main-sequence star in the night sky.

Stars which were born in smaller clumps of gas and interstellar dust develop into small cool objects known as red dwarfs. Red dwarfs are the most common of all stars in the Milky Way and have a lifespan of about tens of billions to trillions of years. During their age they eventually become objects called blue dwarfs and then white dwarfs, fading into cold, black dead dwarfs. However, it is estimated that the universe is not old enough yet for even a blue dwarf to have formed!

Our Sun belongs to the group of medium-sized stars which are predicted to have shorter lives than red dwarfs. At the end of their lives, they will start swelling into red giants. A red giant eventually will shed its outer layers to form a planetary nebula, together with a very hot star remnant known as a white dwarf.

Very large stars have the shortest lives because the fuel inside their cores is used up very quickly. By shedding off more and more of their outer layers they turn into red supergiants, like Betelgeuse in Orion for example. Betelgeuse made head lines over the past few years because it was pulsating, meaning the material ejected into space was increasing. At the moment, however, Betelgeuse is believed to be stable again.

Finally, Red supergiants will end up in a tremendous explosion called a supernova. If the core remaining after a supernova explosion is more than three times massive as our Sun, it will shrink into a bizarre object called a black hole. If the core remaining after a supernova explosion has a mass between 1.4 and 4 times more massive than our Sun, the remnant forms a neutron star, an extremely compact and spinning object.



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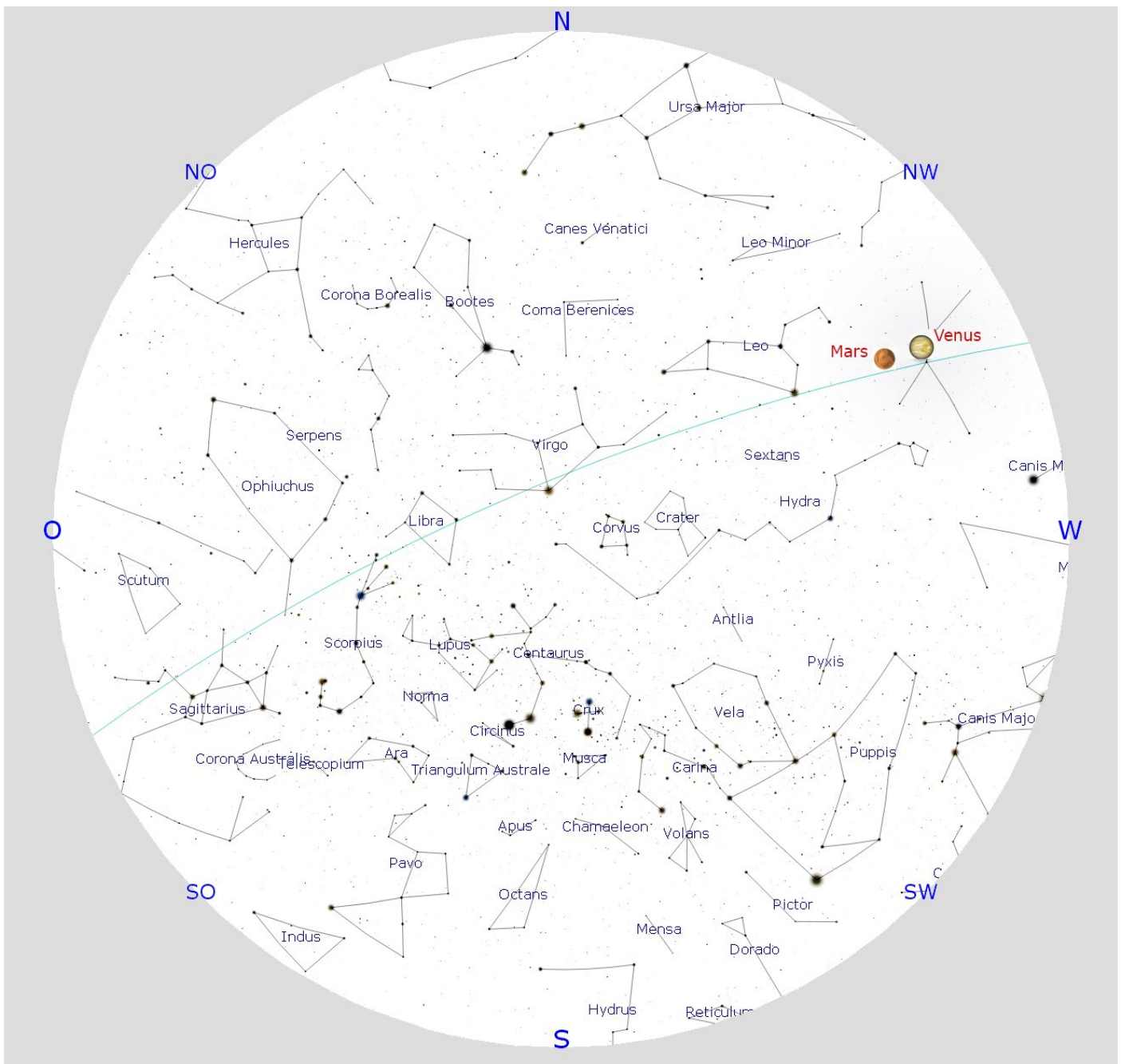
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Himmel über Windhoek am 15. Juni 2023 gegen 20:30 CAT. Planeten: Merkur ist nicht sichtbar, Venus und Mars weiterhin dominant am Abendhimmel. Jupiter ist Planet des Morgenhimmels, Saturn geht kurz vor Mitternacht auf.

Sonnenaufgang: 07:22

Sonnenuntergang: 18:21

Die Mondphasen für Juni 2023

| | |
|-----------------|----------|
| Neumond | 18. Juni |
| 1. Viertel | 26. Juni |
| Vollmond | 04. Juni |
| Letztes Viertel | 10. Juni |

Der Sternenhimmel

Im Südwesten geht das Sternbild Großer Hund unter und im Osten erhebt sich der Schütze über den Horizont.

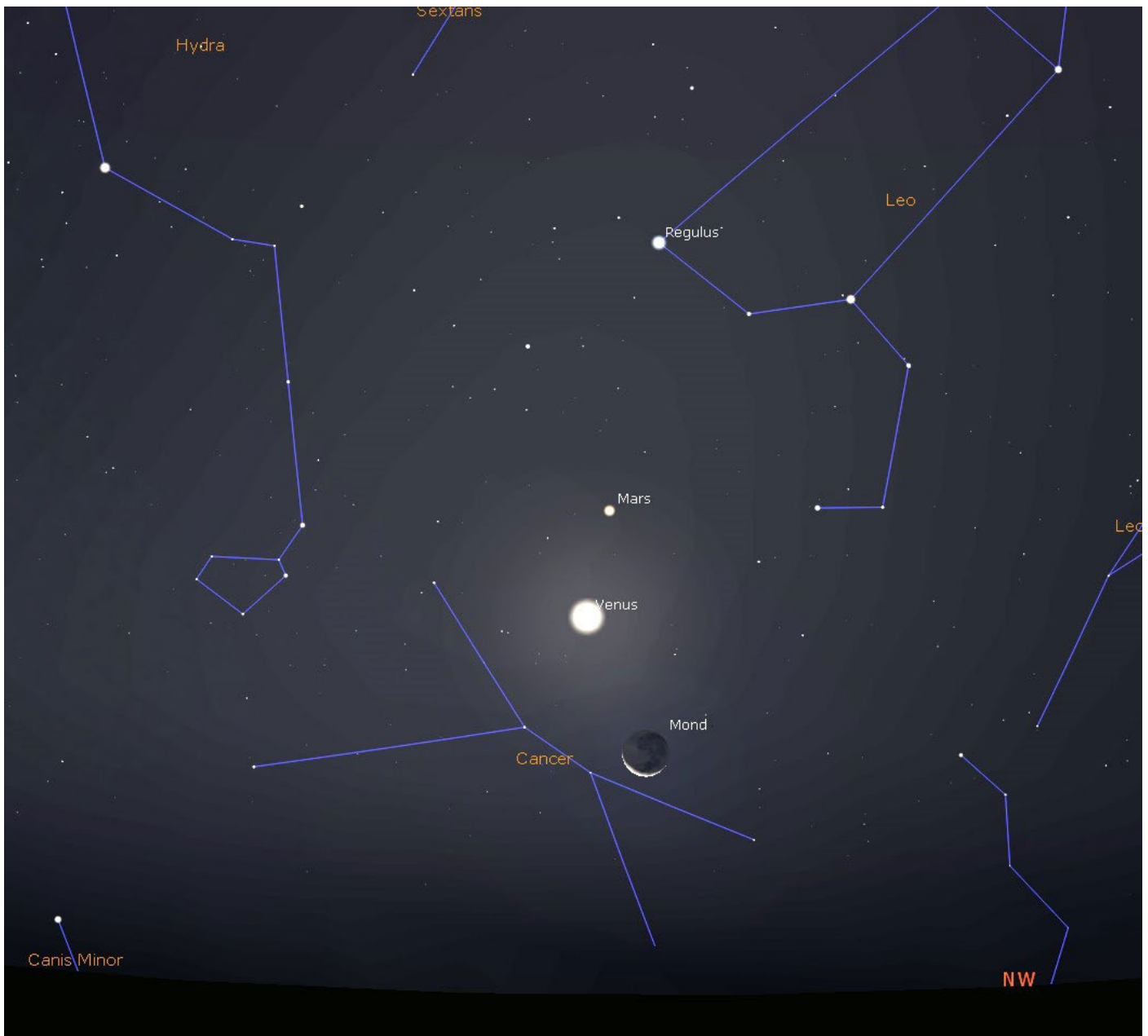
Das Kreuz des Südens erreicht in Blickrichtung Süd seine höchste Stellung über dem Horizont. Im Nordwesten geht der große Wagen unter.

Mond und Planeten im Juni 2023

(M = Morgenhimmel, A = Abendhimmel)

21.06. **Astronomischer Winterbeginn auf der Südhalbkugel der Erde**

21.06. Nach Sonnenuntergang steht eine schmale Mondsichel zusammen mit den Planeten Venus und Mars über dem Nordwesthorizont [A]



Blick zum Nordwesthorizont am 21. Juni gegen 20 Uhr CAT. Eine schmale Mondsichel im Sternbild Krebs (Cancer) steht zusammen mit den Planeten Mars und Venus. Darüber steht das Sternbild Löwe.