

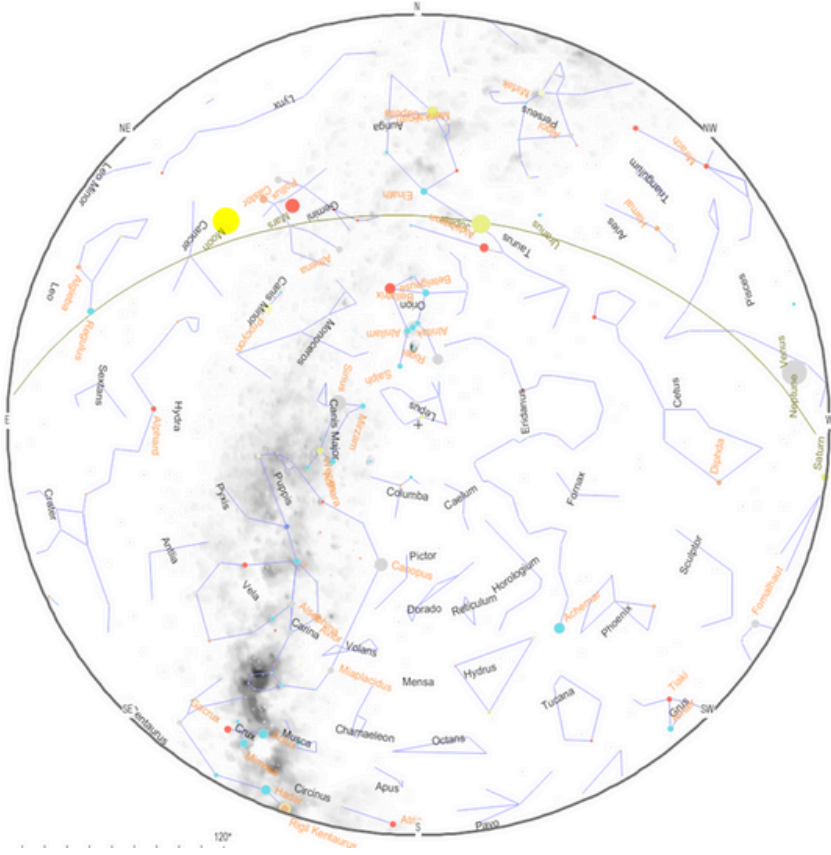


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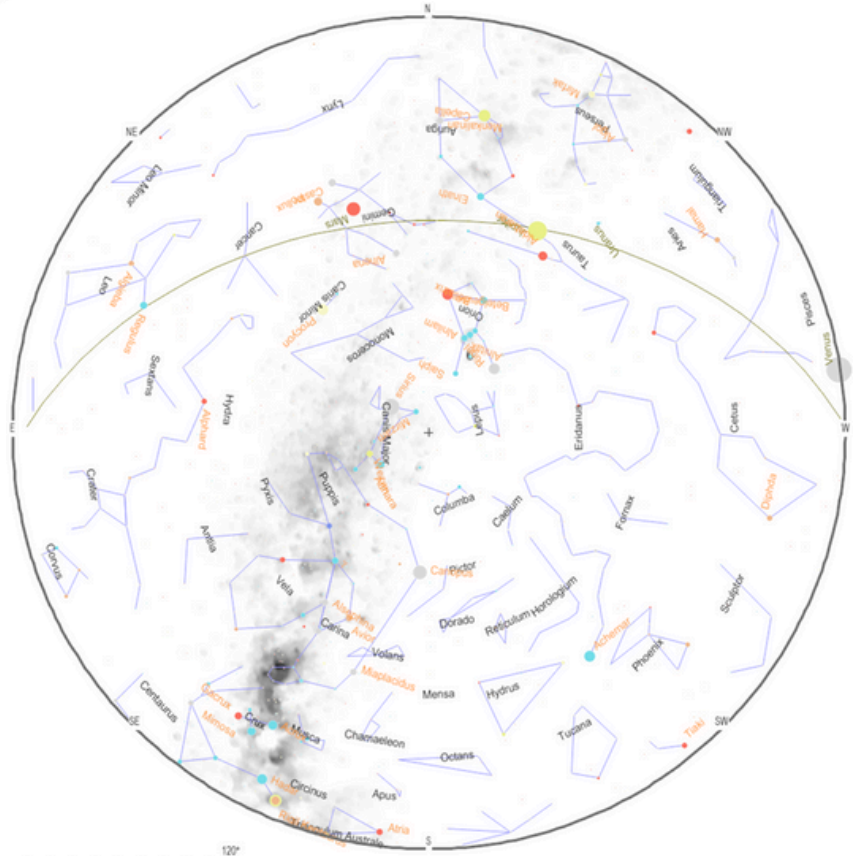
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Astronews February 2025

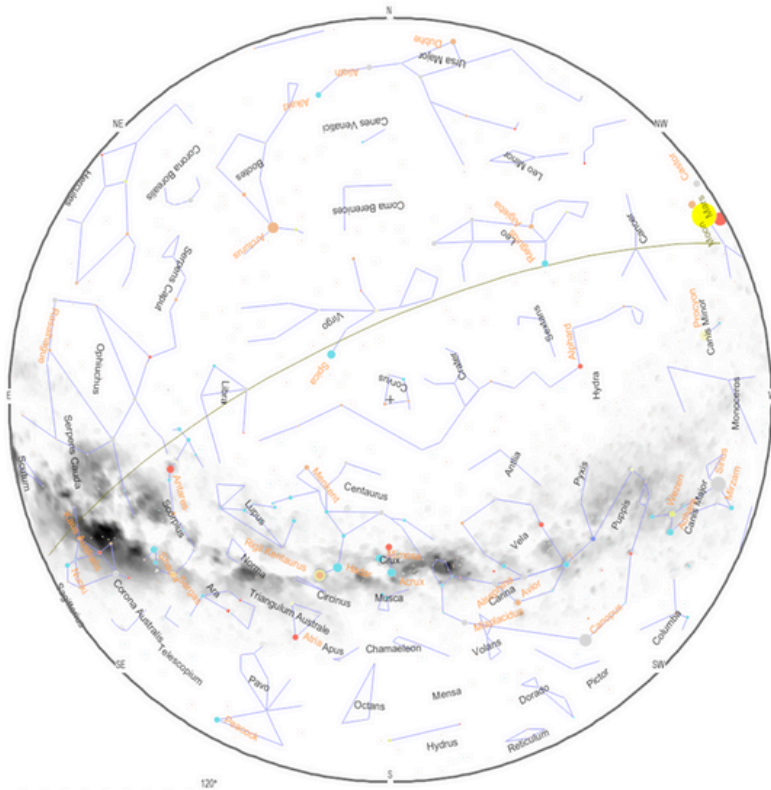
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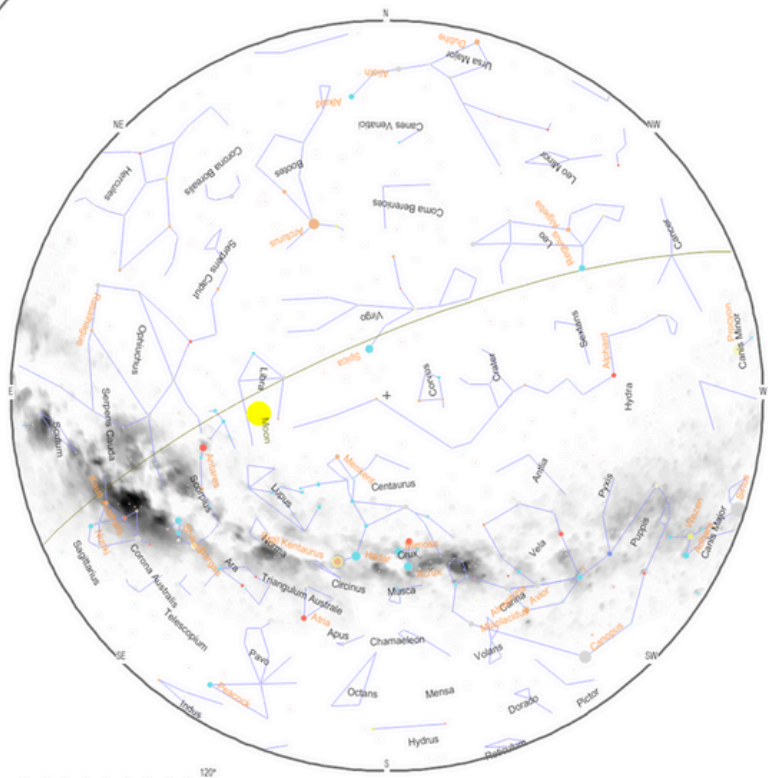
Skychart at Windhoek on 10 February 2025
at 21h00 CAT



Skychart at Windhoek on 20 February 2025
at 21h00 CAT



Skychart at Windhoek on 10 February 2025 at 04h00 CAT



Skychart at Windhoek on 20 February 2025 at 04h00 CAT

Moon Phases

29 Jan 2025	New Moon
05 Feb 2025	First Quarter
12 Feb 2025	Full Moon
20 Feb 2025	Last Quarter

Solar System

Planet	Visibility	Rise	Culm.	Set
15 February 2025				
Mercury		06:56	13:21	19:45
Venus		09:33	15:25	21:16
Mars		17:08	22:24	03:39
Jupiter		14:21	19:46	01:10
Saturn		08:16	14:29	20:42

Mercury is passing behind the Sun at a superior solar conjunction. It is not observable from Namibia as it will be below the horizon at dusk.

Venus put on a spectacular show in January as a very bright object in the evening sky. The Planet is visible as an evening object, having recently passed greatest elongation east. It will become visible at around 19:45 in the west and set an hour and three quarters after the Sun at 21:16.

On 16 January **Mars** passed opposition.

In Namibia, it is visible in the evening sky above your northeastern horizon. It will continue to be observable until around 02:53, when it sinks below 8° above your north-western horizon.

Jupiter is currently an early evening object, now receding into evening twilight. It will reach its highest point in the sky at 19:46, 45° above your northern horizon and continue to be observable until around 00:30, when it sinks below 7° above your north-western horizon.

Saturn will soon pass behind the Sun at solar conjunction. From Windhoek, it is not observable.

In Memoriam:

Sonja Itting-Enke passed away on 11 December 2024 at the age of 94 years. She founded the Cuno Hoffmeister Memorial Observatory near Windhoek in Namibia and dedicated her life to conveying astronomical knowledge to the population of Namibia.

In her honour, a main-belt asteroid "Itting Enke" number 133552 was named after her. The asteroid was discovered on 16 October 2003, at the Turtle Star Observatory in Mülheim an der Ruhr.

Constellation of the Month

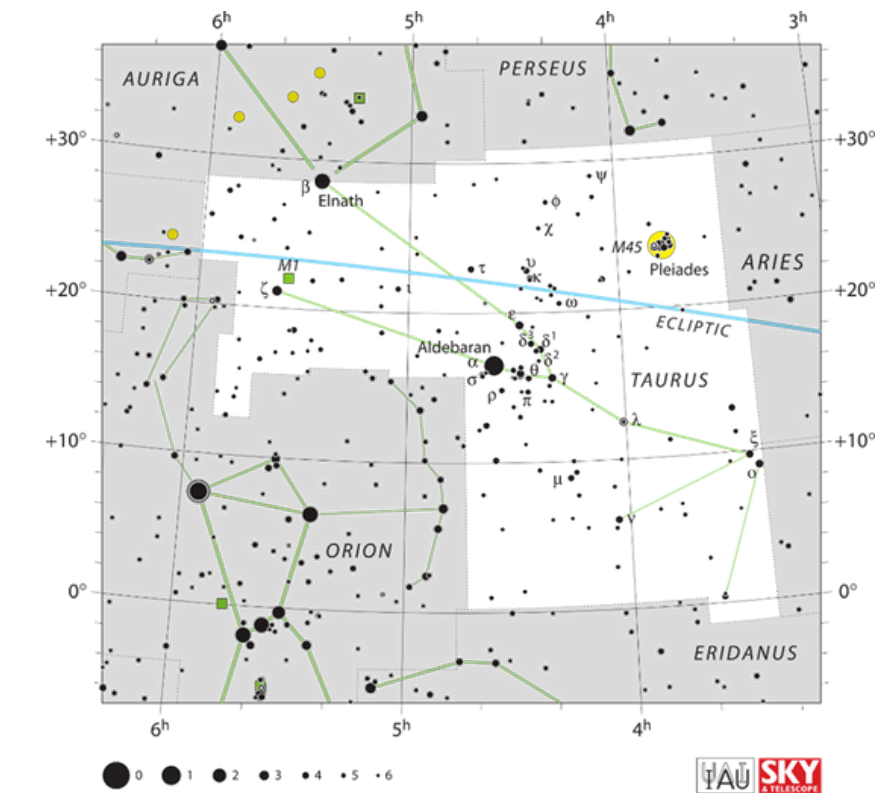
Taurus

by Simon van der Lingen

Taurus is not as obvious as nearby Orion, but is easy to find and full of astronomical interest. For Southern African viewers, locate Orion's Belt, follow it north west through whatever Orion is holding in his left hand to find the Red Giant Aldebaran. Aldebaran is one of the Bull's eyes, superimposed on a bright "V" which forms the face of Taurus. Extend the top-most stars on the "V" of the Bull's face by about three times to find the tips of the horns, Elnath and Zeta Tauri. The chest and front legs of Taurus are, unsurprisingly, below the face, and the hindquarters are not represented in the Constellation.

Greek mythology recounts how Zeus, spurned by the beautiful princess, Europa, changed himself into a magnificent white bull. Europa, not recognizing Zeus, leapt on the back of the bull who immediately carried her off into the sea and swam to the island of Crete. Europa, isolated from friends and family was more receptive to Zeus's attentions when he revealed himself, and bore him three children, one of whom (Minos) became the King of Crete and commissioned the building of an elaborate labyrinth housing the Minotaur. The Minotaur was born following an illicit union between Minos' wife, Pasiphaë and another magnificent white bull, this one gifted to Minos by the god, Poseidon.

Aldebaran, about 20-50% more massive than our Sun and perhaps 1.5 billion years older, has consumed the hydrogen at its core and expanded into a Red Giant, now 44 times bigger



than our Sun. Aldebaran will remain a Red Giant, converting Helium to Carbon for a couple of million years, then contract to become a White Dwarf; the same evolutionary cycle our Sun is destined to follow.

Elnath, denoting the horn (butting) in Arabic is now considered part of Taurus but was regarded by Ptolemy as part of the adjacent constellation, Auriga (the Charioteer). Zeta Tauri, much fainter than Elnath, is still quite visible to the naked eye. Zeta Tauri is an interesting Binary, the primary star about 11 solar masses and the secondary star about the same size as our Sun. Bigger and intrinsically much brighter than Elnath, it appears dimmer only because it is three times further away.

Close to Zeta Tauri is the Crab Nebula, first of Charles Messier's catalogue of fuzzy objects that aren't comets.

The Crab Nebula (M1) is a cloud of hot gas, 11 light years wide and expanding outwards at 1,500km/sec.; the mortal remains of a supernova recorded by Chinese, Japanese, Native American and Arabic stargazers in 1054. At its centre is a ball of matter 20km wide, into which is crammed 40% more matter than exists in our Sun. This fantastically dense lump of neutronium (± 1 million billion tonnes per cubic metre) is spinning 30 times a second, generating a beam of particles and radiation from visible light to X-rays, that not only light up the Nebula, but provide us with one of the brightest sources of non-thermal radiation in our sky. The Crab Pulsar is visible in optical wavelengths with even a good 14 inch telescope, which is unusual, but the Crab Nebula is a faint binocular object.

Most stars are borne in groups of a few hundred from the same cloud of gas, and exist in a discrete, gravitationally bound group that we call Open Clusters.

The complex gravitational dynamics within the Cluster will eventually evict members and break the group up, producing singletons like our own Sun or more often binary, trinary or even bigger star systems. Open Clusters are generally young, therefore have a high proportion of young, massive, bright stars and are usually visually striking. In Taurus we can see the Hyades and the Pleiades. The Hyades, named for five daughters of the Greek god Atlas is a mere 625 million years old (still a baby!) and is already evaporating (that really is the correct technical term). Several of its more massive members have already begun their evolution into Red Giants.

The brightest stars of the Hyades form the face of Taurus, but binocular examination will show a much richer collection. Aldebaran is not one of the sisters, merely a bright star that lies between us and them.

The Pleiades are half-sisters to the Hyades, thrown into the sky by Zeus to escape the lecherous gaze of the mortal Orion. Zeus clearly didn't think this through, because a few years later Orion too was thrown into the sky to escape Gaia's scorpion (constellation Scorpius), landing uncomfortably close to the Pleiades.

Although four times as distant, the Pleiades is a much younger cluster, meaning a higher proportion of big, bright stars and a tighter grouping than their half-sisters. Binocular viewing of the Pleiades is very spectacular, showing a blue haze of ionised hydrogen surrounding the stars; presumably the remnants of the original gas cloud that gave birth to the cluster.