SkyNews Astronomical events for Indian observers

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Sun, Planets and Transitions

On 1 May the angular diameter of the Sun will be 31'45", which reduces to 31'33" on 31 May.

On 1 May the **Sun** is in Aries, the Ram (*Mesha*) and transits (moves) to Taurus, the Bull (*Vrushabh*) on 14 May.

Mercury is in Aries on 1 May. The same night it transits (moves) to Taurus and continues its forward march in Taurus till the month end.

Catch Mercury this month. Since Mercury is just east of the Sun, it is a good time to spot it. Around this time of the year, the ecliptic is nearly perpendicular to the western horizon at mid-northern latitudes. This means that any planet close to the horizon will be seen through a thinner layer of atmosphere than if the ecliptic were tilted. On 1 May Mercury sets nearly one hour after the Sun. By about mid-month, it will set nearly one and half hours after sunset. On 17 May it reaches its greatest eastern elongation of 22°.

Venus too is in Aries on 1 May. It transits (moves) to Taurus on 4 May. Its progress above the western horizon is not as rapid as that of Mercury, but it will remain above the western horizon for the next many months as an 'evening star'.

Mars is in Gemini, the Twins (*Mithun*) in May. It enters the Gateway of Heaven on 27 May.

Jupiter and **Saturn** are now well above the eastern horizon at dawn. Jupiter is in Aquarius, the Water-bearer (*Kumbha*) and Saturn continues to travel within Capricorn, the Horned Goat (*Makar*).

List of Events in May 2021

Dt	Dy	Time	Event
01	Sa	14:30	Moon furthest south (-25.6°)
03	Mo	22:32	Saturn 4.4° N of Moon
04	Tu	01:20	Last quarter
04	Tu	08:31	Pleiades 2.2° S of Mercury
05	We	02:30	Jupiter 4.9° N of Moon
05	We	07:00	Eta Aquarid shower: ZHR = 60
07	Fr	04:55	Neptune 4.0° N of Moon
10	Mo	04:24	Uranus 2.2° N of Moon
12	We	00:30	New Moon
12	We	03:24	Moon apogee: 406500 km
13	Th	04:59	Venus 0.7° N of Moon
13	Th	13:42	Aldebaran 5.4° S of Moon
13	Th	15:59	Moon ascending node
13	Th	23:29	Mercury 2.4° N of Moon
16	Su	03:55	Moon north declination: 25.6° N
16	Su	10:17	Mars 1.6° S of Moon
17	Mo	06:01	Pollux 3.1° N of Moon
17	Mo	08:34	Venus 5.8° N of Aldebaran
17	Mo	11:29	Mercury elongation: 22° E
18	Tu	06:38	Beehive 3.1° S of Moon
20	Th	00:43	First quarter
20	Th	02:33	Regulus 4.7° S of Moon
23	Sa	23:38	Spica 5.9° S of Moon
24	Su	01:25	Saturn stationary
26	We	00:43	Antares 4.6° S of Moon
26	We	07:22	Moon perigee: 357300 km
26	We	16:44	Full Moon
26	We	16:49	Total lunar eclipse
27	Th	01:08	Moon descending node
29	Sa	00:51	Moon south declination: 25.6° S
29	Sa	08:31	Mercury 0.4° N of Venus
30	Su	07:26	Mercury stationary
31	Mo	06:52	Saturn 4.3° N of Moon
31	Mo	17:09	Mars 5.3° N of Pollux

(*Disclaimer: we categorically mention here that we do not believe in astrology and believe that the only influence a planet has on us is to give us the viewing pleasure of its beauty. The sole purpose of giving the transition of planets and the Sun is to acquaint the reader with the Indian nomenclature of planets and constellations*

and also to show that the actual positions of the Sun and planets, which are based on modern computing, are very different from those given in astrology tables.)

March of the Moon

On 1 May before dawn sets in, the nearly 80% illuminated waning Moon can be seen against the backdrop of the stars of Sagittarius (*Dhanu*). As it moves towards the New Moon phase, it can be seen travelling south of Jupiter and Saturn over the next few days. On 3 May it is southwest of Saturn. The next day, on 4 May, it is slightly more than 5° southeast of Saturn. And on 5 May the 38% illuminated Moon can be seen just about 5° south of Jupiter.

The Moon will reappear above the western horizon on 12 May. On this day it will set after the end of civil twilight, about 30 minutes after sunset. It should be possible to spot the thin lunar crescent right above the horizon. Sighting of this lunar crescent will mark the end of the holy month of Ramzan and the beginning of the Shawwal Month as per the Hijri calendar.

On 13 May the Moon will be southwest of Mercury. Two days later, on 15 May, it will be about 7° west of Mars. On 16 May it can be seen entering the Gateway of Heaven.

The nearly 50% illuminated Moon can be seen northwest of Regulus (*Magha*) on 19 May. On 21 May the Moon, which will be nearly 70% illuminated, will occult the 4th magnitude star ν (Nu) Virginis.
On 23 May the nearly 88% illuminated Moon will be north of Spica (*Swati*), on an imaginary line joining Spica and Arcturus, but much closer to Spica.

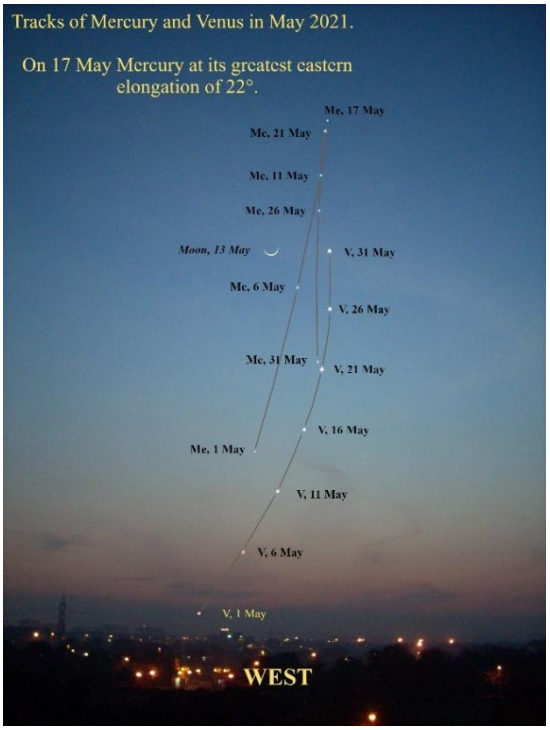
On 26 May the Full Moon rises just before Antares (*Jyestha*).

On 30 May the Moon will rise close to midnight. Saturn will follow it a few minutes later. At dawn on 31 May the Moon and Saturn can be seen together well above the southern horizon.

Lunar Eclipse

There will be a total (umbral) lunar eclipse on 26 May. This eclipse will not be visible over most of India. However, people in certain northeastern regions of India will be able to see the conclusion of the eclipse. The eclipse begins at 2:17 pm. with the Moon entering the penumbral shadow of the Earth. Totality begins at 4:41 pm and will last for about 15 minutes. The eclipse ends with the Moon exiting the shadow of the Earth at 7:20 pm.

Planetary Conjunction



This month we have a conjunction of Venus (magnitude -3.9) and Mercury (magnitude 2.1). On 29 May 2021 at 08:44 hours the planets will be just about half a degree from each other. It will be difficult to observe the conjunction (minimum angular separation) as it takes in the morning.

On the evening of 28 May, at the end of civil twilight, Venus will be 1.12° northwest of Mercury. The next day in the evening it can be seen 0.7° northeast of Mercury. They will be just about 10° above the horizon.

Lunar Occultation of a Bright Star

On 21 May 2021 the 4th magnitude star ν (Nu) Virginis will be occulted by the Moon. This is a very favourable event for Indian amateur astronomers and observable through a pair of binoculars. The event will be visible across India and at a very convenient time.

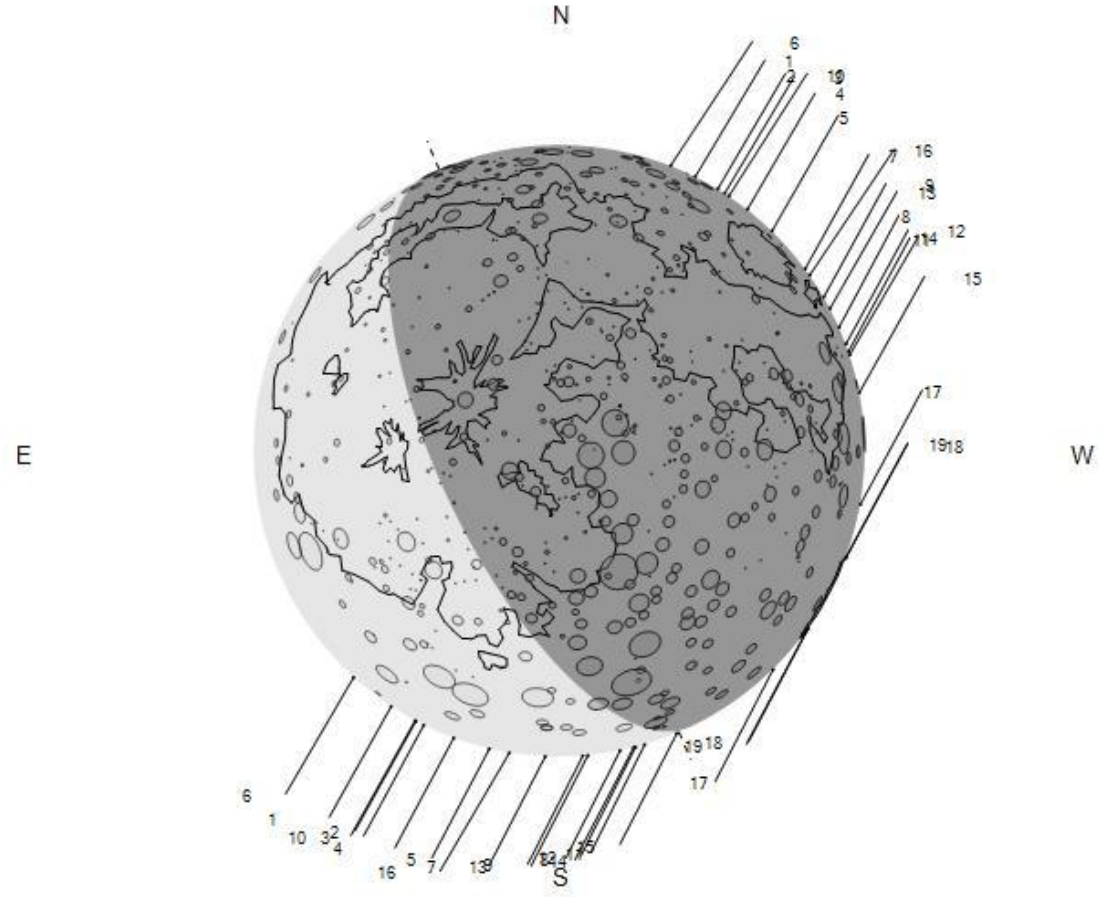
We have listed the times of disappearance and reappearance of the star as per the latitude of the location. the list begins with the northernmost location, Leh, and ends with the southernmost location, Kanyakumari.

Occultation Predictions of ν Virginis (1702 M0), Magnitude 4.0
Date: 21 May 2021
Moon % Illumination = 70+, Solar Elongation = 113

Location	Disappearance			Reappearance		Time Difference between Disappearance and Reappearance
	Time (IST) hh:mm:ss	Moon Altitude		Time (IST) hh:mm:ss	Moon Altitude	
1 Leh	21:13:59	59		22:29:56	47	1:15:57
2 Srinagar	21:09:43	60		22:26:42	50	1:16:59
3 Naini Tal	21:25:10	60		22:41:01	46	1:15:51
4 New Delhi	21:23:12	62		22:39:22	48	1:16:10
5 Jaipur	21:24:54	64		22:39:56	50	1:15:02
6 Guwahati	21:49:07	48		22:58:17	33	1:09:10
7 Udaipur	21:27:54	66		22:39:22	53	1:11:28
8 Bhuj	21:28:39	70		22:31:37	58	1:02:58
9 Ahmedabad	21:31:18	68		22:38:47	55	1:07:29
10 Kolkata	21:50:38	52		23:02:24	35	1:11:46
11 Mumbai	21:44:22	68		22:42:10	55	0:57:48
12 Pune	21:46:05	67		22:45:04	53	0:58:59
13 Hyderabad	21:51:53	62		22:55:51	47	1:03:58
14 Chennai	22:06:17	58		23:01:49	44	0:55:32
15 Bengaluru	22:06:42	60		22:55:20	48	0:48:38
16 Port Blair	22:17:22	43		23:20:34	27	1:03:12
17 Kochi Ind	22:23:17	58		22:46:45	52	0:23:28
18 Trivandrum	22:33:37	55		22:43:16	52	0:09:39

People at other locations may interpolate the time; or if you send us the latitude and longitude of your location, we will be happy to compute the time for you. You may also consider downloading Occult 4 software by Dave Herald (check the acknowledgements below).

Lunar map showing where the disappearance and reappearance will take place. The numbers correspond to the station numbers mentioned above.



For notes on stargazing click here.
Or visit https://skytonight.wordpress.com/monthly-sky-notes-and-links/

Acknowledgements:
http://www.lunar-occultations.com/iota/occult4.htm
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https://eclipse.gsfc.nasa.gov/SKYCAL/SKYCAL.html by Fred Espenak and Sumit Dutta.
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https://www.gimp.org/

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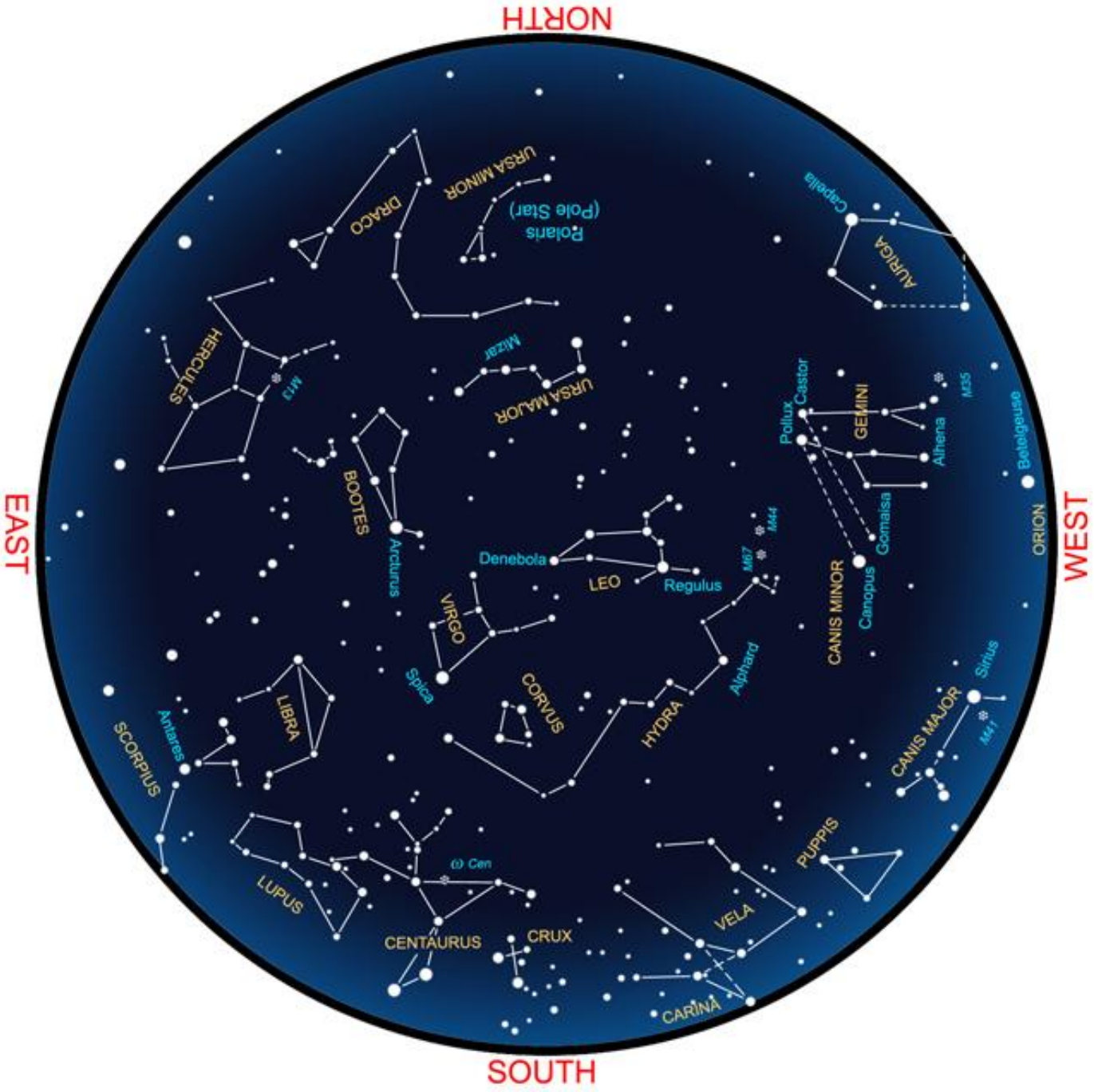
This sky map for May is drawn for mid-northern latitudes, to be used around 9:30 p.m. local time



Occultation of Mars on 17 April 2021

The occultation of Mars (see SkyNews April 2021) saw considerable activities by amateur astronomers. While a large number of people successfully recorded the event, SkyNews is pleased to shortlist a few enthusiasts who observed and webcast this event.

Over the Pune skies, clouds started building up by about 3:30 pm. Mayuresh Prabhune, Yashodhan Panse and the team of Khagol Vishwa, Pune, quickly relocated to Kamshet, about an hours' drive from Pune. They successfully recorded the reappearance of Mars and webcast the event.

Neelam and Ajay Talwar, avid amateur astronomers from Delhi, captured the disappearance of Mars during the daytime, with the Sun still above the horizon. This is mostly likely the first time ever that someone could record such an event. The image sequence shows Mars becoming smaller from right to left, as it progressively gets hidden by the dark limb of the Moon. The image is magnified and therefore the bright limb of the Moon is not in the field. They used a 14 inch EdgeHD telescope and a Canon 6D camera fixed at prime focus.

Abhijit Juvekar from Mumbai also captured Mars during the daytime. He used a Nikon B700 zoom digicam. He only realised that he had captured Mars during post processing. Mars' position is marked with a square, inset images cropped and enlarged.

Samir Dhurde from IUCAA, Pune, with his team of Atharva Patakh and Sonal Thorve, organised a webcast of the event from different locations across the country.

Rathnasree Nandivada from Delhi carried out a special interactive webcast, answering questions live from viewers.