



## Sun, Planets and Transitions

The **Sun** moves from Cancer, the Crab (*Karka*) to Leo, the Lion (*Simha*) on 11 August. Its angular will decrease from  $0^{\circ}31'30.72''$  on 1 August to  $0^{\circ}31'40.59''$  on 31 August.

**Mercury** will move from Leo to Virgo, the Virgin (*Kanya*) on 21 August.

**Venus** will move from Gemini to Cancer on 10 August.

**Mars** moves from Aries, the Ram (*Mesha*) to Taurus, the Bull (*Vrushabh*) on 9 August.

**Jupiter** and **Saturn** remain in Cetus and Capricornus respectively in August.

This is a good month for watching **Mercury**. It will follow a near-parallel track over the horizon at sunset. And it will set well after the end of civil twilight, that is, when the Sun is  $6^{\circ}$  below the horizon. Its magnitude at the beginning of the month will be about -0.6 and it will drop to +0.4 by the month's end. On 4 August at 14:57 IST it will be  $40'35''$  north of Regulus. That evening it will be north east of Regulus and the angular distance between them will increase marginally to  $44'55''$ .

The morning appearance of **Venus** is nearly over. It is still visible above the eastern horizon at dawn. It rises about an hour and a half before the Sun at the beginning of the month; by the month's end it rises about an hour before sunrise. On 26 August the thin lunar crescent can be seen to its north just before sunrise.

**Mars (mag. 0.2)** and **Uranus (mag. 5.8)** are well above the eastern horizon at dawn. Mars passes within  $1.3^{\circ}$  S of Uranus on 2 August. It will be interesting to observe both of them through a pair of binoculars. Mars should appear red in colour and Uranus will have a bluish-green tinge.

### List of Events in August 2022

Dt	Dy	Time	Event
02	Tu	06:03	Mars $1.3^{\circ}$ S of Uranus
04	Th	07:13	Spica $4.1^{\circ}$ S of Moon
04	Th	14:57	Mercury-Regulus: $40'35''$ N
05	Fr	16:36	First quarter
06	Sa	02:00	Moon descending node
06	Sa	15:03	Venus-Pollux: $6.5^{\circ}$ S
07	Su	13:59	Moon-Antares: $2.8^{\circ}$ S
09	Tu	12:06	Moon south declination: $27^{\circ}$ S
10	We	22:44	Moon perigee: 359800 km
12	Fr	07:06	Full Moon
12	Fr	09:25	Moon-Saturn: $3.9^{\circ}$ N
13	Sa	06:50	Perseid Shower: ZHR = 90
14	Su	22:05	Saturn opposition
14	Su	17:42	Neptune $2.8^{\circ}$ N of Moon
15	Mo	15:07	Moon-Jupiter: $1.9^{\circ}$ N
17	We	21:32	Venus-Beehive: $0.9^{\circ}$ S
18	Th	16:29	Moon ascending node
18	Th	19:45	Uranus $0.5^{\circ}$ S of Moon
19	Fr	10:06	Last quarter
19	Fr	16:02	Moon-Pleiades: $3.4^{\circ}$ N
19	Fr	17:46	Moon-Mars: $2.9^{\circ}$ S
20	Sa	14:06	Mars-Pleiades: $5.6^{\circ}$ S
22	Mo	20:38	Moon north declination: $27.1^{\circ}$ N
23	Tu	03:23	Moon apogee: 405400 km
24	We	05:47	Moon-Pollux: $2.3^{\circ}$ N
24	We	20:42	Uranus stationary
25	Th	07:16	Moon-Beehive: $3.8^{\circ}$ S
26	Fr	02:28	Moon-Venus: $4.7^{\circ}$ S
27	Fr	06:20	Regulus $4.4^{\circ}$ S of Moon
27	Sa	13:47	New Moon
27	Sa	21:29	Mercury elongation: $27.3^{\circ}$ E
29	Mo	22:20	Mercury $5.9^{\circ}$ S of Moon
31	We	12:36	Spica $3.9^{\circ}$ S of Moon

**Jupiter** and **Saturn** are now evening or early night objects. By the month-end these gas giants are visible all through the night. Saturn is in opposition on 14 August, that is, Saturn – Earth – Sun are almost in a straight line.

*(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**

The month starts with the approximately 14% illuminated Moon above the western horizon.

On 3 and 4 August, the Moon can be seen respectively below and above Spica (*Chitra*).

On 5 August the Moon can be seen right below the 2.7 magnitude star Zubenelgenubi, the brightest star in Libra, the Scales (*Tula*). During this month one can see Scorpius above the southern horizon soon after sunset. On 7 August the Moon passes right over Antares (*Jyeshtha*). The Moon will be just about 3° from the centre of the Milky Way.

On 11 August the near Full Moon can be seen rising with Saturn. The next day on 12 August, the Full Moon will be right below Saturn. On 15 August at dawn one can see the Moon below Jupiter. On 19 August well before dawn, we have a beautiful configuration of the nearly half Moon well above the horizon, with Mars below it. To Mars' left will be the Pleiades (*Krutika*) and well below it will be the 'A' shaped Hyades cluster with the red star Aldebaran. The next day the Moon will be below the Pleiades and Mars.

On 24 August the Moon will be south of Pollux. On 26 August try to catch the thin lunar crescent (the Moon is just about 2%

illuminated) next to Venus. They will be rising about an hour before the Sun.

By the end of the month you may try to catch the approximately 5% illuminated lunar crescent north of Mercury. Both of them will set only after the end of astronomical twilight.

On 31 August the Moon can be seen right above Spica.

## **Meteor Shower**

The Perseid Shower is expected to peak on 13 August at about 7 am Indian Standard Time. This has been one of the good showers with about 50 to 90 meteors per hour. However, it coincides with the monsoon season and the sky is not expected to be very clear. This year we also have bright moonlight in the sky.

## **Occultation Watch**

A good lunar occultation of a naked eye bright star,  $\theta$  Virginis (magnitude 4.4), will take place on 3 Aug 2022. At the time of disappearance, the Moon will be fairly well above the horizon for observers in the western part of India. If the sky is clear in the direction of the Moon just at the time of occultation, it will be a rewarding experience.

Timings of disappearance and reappearance are given in the table below. The diagram following the table is a lunar map showing where the disappearance and reappearance will take place. The numbers correspond to the station numbers mentioned in the corresponding table.

## **Happy Skywatching!**

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>

by Dave Herald for International Occultation Timing Association.

<https://eclipse.gsfc.nasa.gov/SKYCAL/SKYCAL.html> by Fred Espenak and Sumit Dutta.

Graphics using GNU Image Manipulation Program (GIMP) a cross-platform image editor.

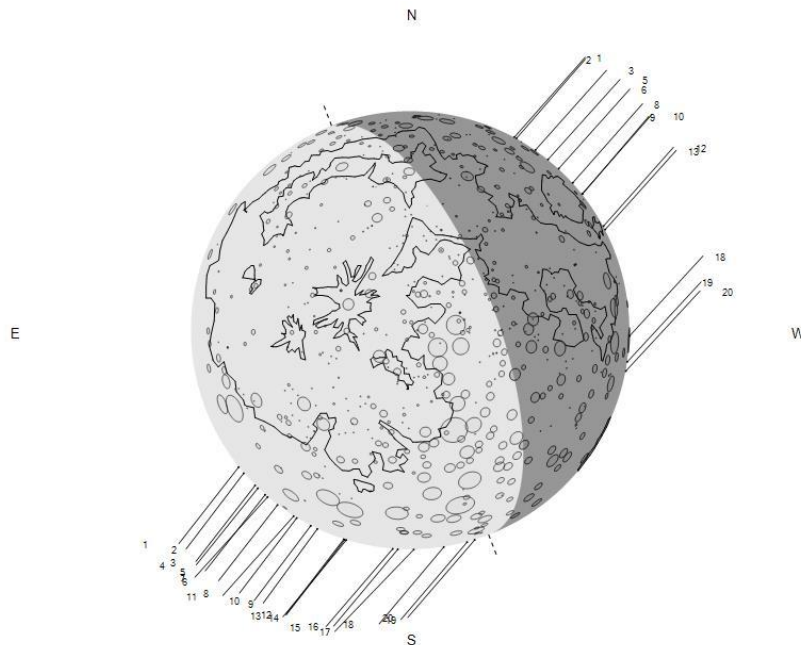
<https://www.gimp.org/>

## ▼ Occultation Prediction of $\Theta$ Virginis, Magnitude 4.54

Date: 3 August 2022

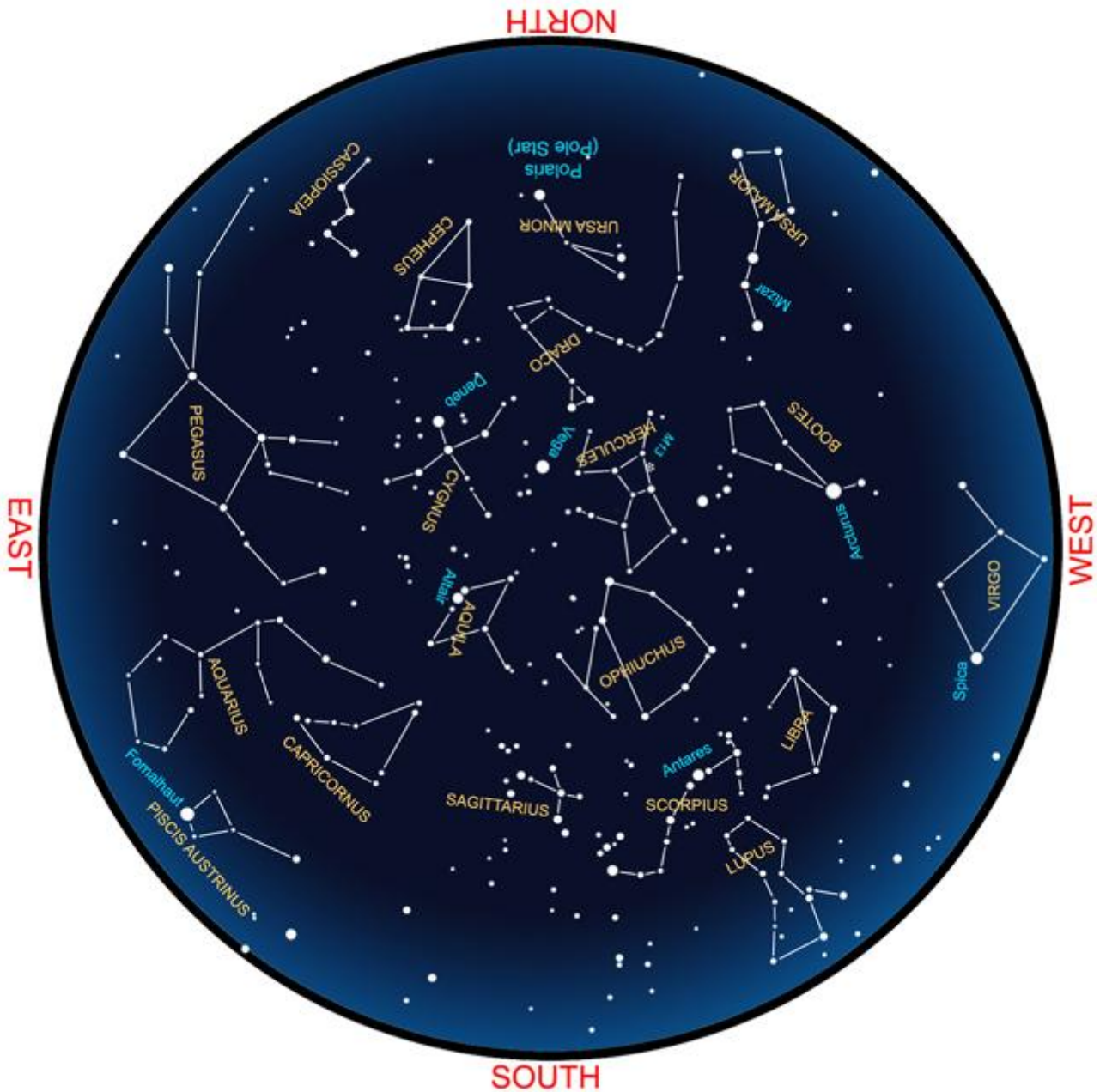
Moon% illumination = 30+ (waxing); solar elongation = 67

Disappearance			Reappearance		
City	Time (IST)	Moon Alt	City	Time (IST)	Moon Alt
1 Leh	20:35:57	22	1 Leh	21:41:38	9
2 Srinagar	20:33:06	25	2 Srinagar	21:40:24	12
3 Chandigarh	20:40:43	23	3 Chandigarh	21:47:42	9
4 Nainital	20:45:33	20	4 Nainital	21:51:34	9
5 NewDelhi	20:44:43	23	5 NewDelhi	21:53:46	10
6 Jaipur	20:46:23	24	6 Jaipur	Moon sets	
7 Guwahati	20:58:37	8	7 Guwahati	Moon sets	
8 Udaipur	20:48:31	26	8 Udaipur	21:56:13	11
9 Bhuj	20:47:01	31	9 Bhuj	21:55:41	15
10 Ahmedabad	20:50:30	27	10 Ahmedabad	21:57:49	12
11 Kolkata	21:03:12	11	11 Kolkata	Moon sets	
12 Mumbai	20:59:18	26	12 Mumbai	22:02:39	11
13 Pune	21:01:07	25	13 Pune	22:03:34	11
14 Hyderabad	21:07:02	20	14 Hyderabad	Moon sets	
15 Chennai	21:18:16	16	15 Chennai	Moon sets	
16 Bengaluru	21:16:58	19	16 Bengaluru	Moon sets	
17 Port Blair	21:27:15	2	17 Port Blair	Moon sets	
18 Kochi	21:24:57	19	18 Kochi	22:06:49	9
19 Trivandrum	21:30:10	17	19 Trivandrum	22:05:46	9
20 Kanyakumari	21:32:07	16	20 Kanyakumari	22:05:22	9



The numbers on the map correspond to the location number in the table above

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



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