



Sun, Planets and Transitions

The **Sun** moves from Leo, the Lion (*Simha*) to Virgo, the Virgin (*Kanya*) on 17 September. Its angular diameter will increase from $0^{\circ}31'41.34''$ on 1 September to $0^{\circ}31'55.94''$ on 30 September. The autumnal equinox will take place on September 23 at 06:34 hours IST. On this day, the sun's rays are parallel to the equator, and for those on the equator, the Sun is right overhead at noon.

Mercury remains in Virgo in September.

Venus moves from Leo to Virgo on 24 September.

Mars remains in Taurus, the Bull (*Vrushabh*) in September.

Jupiter moves from Cetus to Pisces, the Fishes (*Meena*) on 1 September, and **Saturn** continues its march in Capricornus. At the beginning of the month, **Jupiter** rises about an hour after sunset and is well above the western horizon at sunrise; by the month's end, it will rise close to sunset. **Saturn** rises well before sunset and transits the local meridian three hours after sunset.

Mercury can be seen right above the western horizon soon after sunset. It will reappear above the eastern horizon at dawn by the end of the month. It will be at inferior conjunction on 23 September. On this day Mercury will be $2^{\circ}50'$ south of the Sun at 16:49 hours IST.

The morning appearance of **Venus** ends this month. But before it gets too close to the Sun, we have a beautiful conjunction of Venus (-3.5 mag) and Regulus (1.4 mag) on 5 September. The closest distance between them will be $44'20''$ at 11:57 hours IST. The planet and the star rise about 50 minutes before the Sun. At that time, the separation will be about $44'30''$. Try not to miss this

List of Events in September 2022

Dt	Dy	Time	Event
02	Fr	02:42	Moon descending node
03	Sa	22:59	Moon-Antares: 2.6° S
03	Sa	23:38	First quarter
05	Mo	19:26	Moon south declination: 27.2° S
05	Mo	11:57	Venus 0.7° N of Regulus
07	We	17:25	Mars-Aldebaran: 4.3° N
07	We	23:47	Moon perigee: 364500 km
08	Th	16:01	Moon-Saturn: 3.9° N
10	Fr	01:08	Mercury stationary
11	Fr	02:40	Neptune 2.7° N of Moon
11	Su	20:41	Moon-Jupiter: 1.9° N
14	We	20:19	Moon ascending node
15	We	03:56	Uranus 0.7° S of Moon
16	Fr	00:20	Moon-Pleiades: 3.1° N
17	Sa	02:33	Neptune opposition
17	Sa	07:11	Moon-Mars: 4° S
18	Su	03:22	Last quarter
19	Mo	03:40	Moon north declination: 27.3° N
19	Mo	20:14	Moon apogee: 404600 km
20	Tu	13:10	Moon-Pollux: 2.1° N
23	Fr	06:34	Autumnal equinox
23	Fr	12:17	Mercury inferior conjunction
23	Fr	13:51	Regulus 4.4° S of Moon
26	Mo	03:24	New Moon
26	Mo	23:33	Jupiter opposition
29	Th	05:13	Moon descending node

event.

Then on 7 September **Mars** (-0.1 mag) is less than 4.5° north of Aldebaran (0.8 mag). Both of them have a distinct reddish hue. Pleiades (*Kritika*) to their northwest creates a nice configuration for photography. They will rise close to local midnight.

This month has another interesting configuration at the beginning of the month. **Jupiter** lines up with the two eastern stars of

the great square of Pegasus, Alpharatz (α Andromedae) and Algenib (γ Pegasi). An imaginary line joining Jupiter and these stars, extended northwards, will lead us to Polaris, the Pole Star.

(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 27% illuminated Moon above the western horizon at sunset. It is to the northwest of Zubenelgenubi, the brightest in Libra, the Scales (*Tula*). On 3 September it will be northwest of Antares (*Jyeshtha*). The Moon then passes through the Milky Way and will be seen inside the Tea Pot asterism of Sagittarius on 5 September.

On 8 September the near Full Moon can be seen southeast of Saturn. Then three days later on 11 September, the 98 % illuminated Moon is just about 2° south of Jupiter.

On 15 September the Moon will be less than a degree from Uranus. The next day it passes south of Pleiades; and on 17 September it is just about 4° north of Mars.

On 20 September the Moon will be right inside the Gateway of Heaven. On 23 September the Moon will occult a 3.5 magnitude star, η Leonis, but this will not be visible from India.

The Moon reappears above the western horizon as a thin crescent on 28 September, soon after sunset.

Algol Season

Algol (β Persei) is a famous naked eye eclipsing variable star. It is one of the most enjoyable eclipsing variables. It takes about five hours for the star to fade, and another five hours for it to regain its normal brightness.

For more information about this star, please visit

<https://skytonight.wordpress.com/2012/10/12/minima-of-argol/> .

For higher northern latitudes, the star is almost circumpolar; it is visible throughout the night. But for observers in the mid- and lower mid-northern latitudes, the star becomes visible between the end of September and the following March.

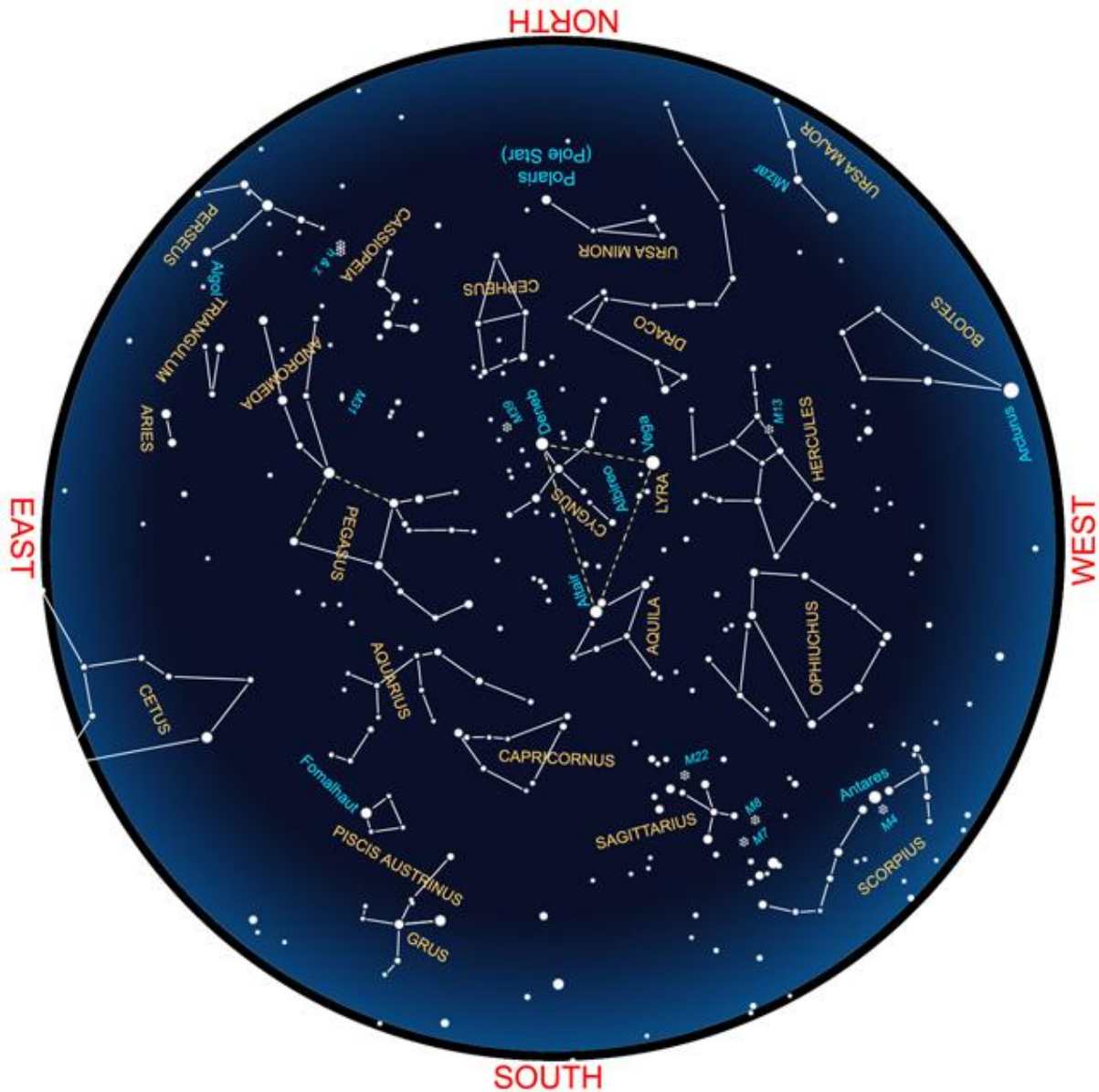
We list here the timings of Algol minimum for September 2022, suitable for observers in India and neighbouring countries.

<u>Date</u>	<u>Time of Minimum (IST)</u>	<u>Notes</u>
01	02:09	The night of 31 August is good for observation; Algol rises about three hours after sunset.
03	10:58	Algol rises about three hours after sunset, by which time the dimming will have started.
21	03:49	Algol rises about two hours after sunset, and one can catch the start of the dimming.
24	00:38	The entire dimming process is observable on this night.
26	09:27	The dimming will have started by the time Algol becomes visible.

Note for amateur astronomy associations and those who conduct star parties

The star party season will be starting soon. If you are planning to conduct star parties in the coming months, then please do let us know. We will be happy to include the information in SkyNews. Please send the following information: Name of the organiser, date of event, venue, programme highlights, participation fee and name and contact details (phone, email ID, URL etc) of a contact person. Thank you.

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



For star maps of other months please visit <http://astron-soc.in/outreach/resources/sky-maps/>

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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/>