



Sun, Planets and Transitions

The **Sun** transits from Leo, the Lion (*Simha*) to Virgo, the Virgin (*Kanya*) on 17 September. Its angular diameter increases from 31'41.5" on 1 September to 31'56.2" by 30 September.

The autumnal equinox is on 23 September. The sun's rays will be perpendicular to the equator at 00:51 IST. Although we are used to thinking of the 'equinox' as a time of equal day and night, in reality that does not happen. For more information visit this link: <https://skytonight.wordpress.com/2013/04/30/equinox-day>

Mercury is in Virgo.

Venus transits from Virgo to Libra, the Scales (*Tula*) on 18 September.

The table below gives Venus' phase, elongation (Sun-Earth-Venus angle) and angular diameter. The magnitude of Venus will be -4.0 at the beginning of the month and will increase to -4.2 by the month-end.

Date	Phase	El(°)	Diam(")
01 Sep 2021	0.730	39.7	15.03
11 Sep 2021	0.696	41.6	16.07
21 Sep 2021	0.661	43.4	17.30

Mars moves from Leo to Virgo on 6 September.

Jupiter and **Saturn** continue their march in Capricornus, the Sea Goat (*Makar*).

(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

List of Events in September 2021

Dt	Dy	Time	Event
02	Th	05:53	Moon north declination: 25.9° N
03	Fr	09:24	Pollux 3.0° N of Moon
04	Sa	09:37	Beehive 3.1° S of Moon
05	Su	20:02	Venus-Spica: 1.6° N
06	Mo	05:44	Regulus 4.5° S of Moon
07	Tu	06:22	New Moon
08	We	01:06	Mars 3.8° S of Moon
09	Th	07:01	Mercury 5.9° S of Moon
10	Fr	02:18	Spica 5.3° S of Moon
10	Fr	07:39	Moon-Venus: 4.1° S
11	Sa	15:36	Moon perigee: 368500 km
12	Su	22:05	Moon descending node
13	Mo	07:42	Antares 4.1° S of Moon
14	Tu	02:09	First quarter
14	Tu	09:29	Mercury elongation: 26.8° E
14	Tu	13:40	Neptune opposition
15	We	09:18	Moon south declination: 26° S
17	Fr	08:07	Moon-Saturn: 3.9° N
18	Sa	12:20	Moon-Jupiter: 4.1° N
21	Tu	05:25	Full Moon
21	Tu	07:33	Mercury-Spica: 1.4° S
23	Th	00:51	Autumnal equinox
26	Su	13:03	Moon ascending node
27	Mo	03:14	Moon apogee: 404600 km
29	We	07:27	Last quarter
29	We	13:56	Moon north declination: 26.1° N
30	Tu	18:07	Pollux 2.8° N of Moon

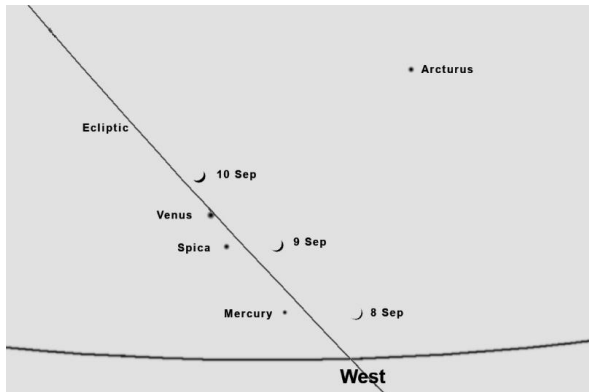
nomenclature of planets and constellations and also to show that the actual positions of the Sun and planets, which are based on modern computing, are very different from those given in astrology tables.)

March of the Moon

On 3 September the crescent Moon is in the Gateway of Heaven and can be seen south of Pollux. The next day one can spot the Beehive cluster (M44) about 3° south of an even thinner lunar crescent.

At this time of the year in the northern

hemisphere, the ecliptic (the path of the Sun on the celestial sphere) is inclined towards the south at sunset. Therefore, even though the elongation of a planet (the Sun-Earth-planet angle) may be large, the planet's altitude can be quite low. This makes the observation of the planets a little difficult.



New Moon is on 7 September at 6:22 am. Later that evening, it will be a challenge to spot the approximately seven hour-old thin lunar crescent, because the Moon will be only 0.6% illuminated.

On 8 September the Moon reappears above the western horizon in the evening and can be spotted with some difficulty. The next day on 9 September the Moon passes less than 6° from Mercury at 7 am. By the end of civil twilight in the evening, the thin lunar crescent can be seen right above Mercury. On 10

September the lunar crescent is right above Venus.

On 12 September the nearly 36% illuminated Moon is in the 'claws' of Scorpio. This is *Anuradha*, the 17th *nakshatra* of Indian astronomy.

The Moon passes less than 4° from Saturn and Jupiter on 17 and 18 September respectively. On the evening of 17 September, we can see the Moon halfway between Saturn and Jupiter, south of the imaginary line joining the planets. It will now be nearly 87% illuminated.

Conjunctions

On 17 September at 15:31 hours IST, Jupiter will be $1^\circ 24'$ from the fourth brightest star in Capricornus, δ Capricorni. Jupiter is -2.8 magnitude and δ Capricorni or Deneb Algedi will be four magnitudes fainter at 2.8 mag. This will be a good contrast conjunction as Jupiter will have a yellowish tinge while δ Capricorni is white.

On 21 September Mercury will be $1^\circ 25' 21''$ from Spica at 20:08 hours IST. The magnitude of Mercury will be 0.4 whereas Spica (*Chitra*) is fainter by about half a magnitude at 0.95 mag. The star and the planet are both white.

Upcoming Star Parties

Astrophotography Workshop

Organizer: [Universal Immersive Media and Education](#)

Dates: 4–10 October 2021

Place: Spiti Valley, Himachal Pradesh

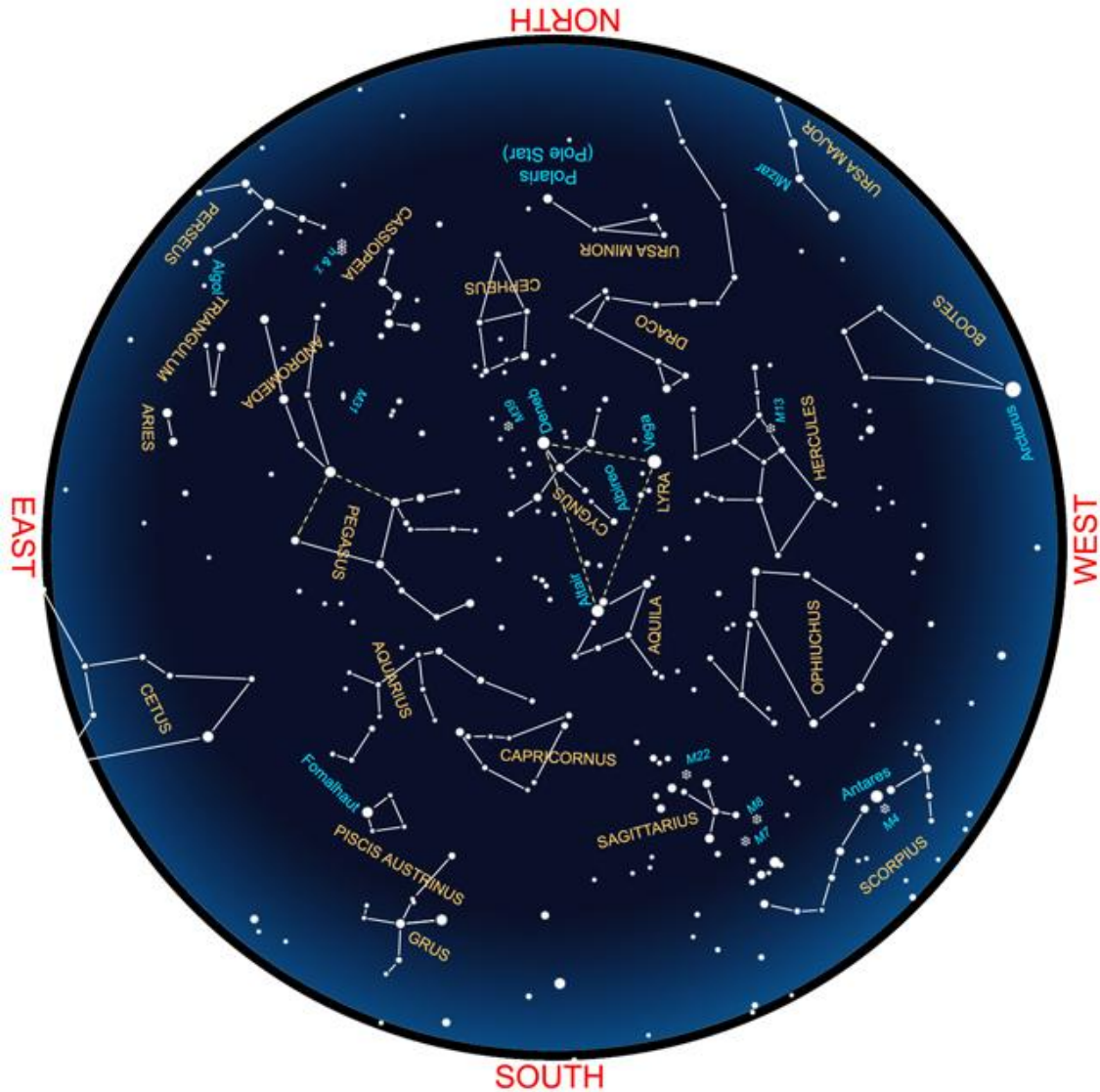
Details: The tour begins from Shimla and includes a visit to the Chango-Gyu mummy, Tabo; sightseeing at Kaza; and astrophotography workshop nights at Pin Valley, Kaza, Langza and Chandrataal. Post-processing techniques will be demonstrated.

Fee: Rs 35000/= per person inclusive of taxes, all transport from Shimla and the return journey to Shimla/Manali, breakfast, dinner, camping and homestay costs.

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



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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