SkyNews Astronomical events for Indian observers

An initiative supported by
The Public Outreach and Education Committee
Of the Astronomical Society of India

Volume 7 Issue 10
October 2025

Sun, Planets and Transitions

The Sun remains in Virgo, the Virgin (*Kanya*) during October. On 1 October, its angular diameter will be 31’57”. By the end of the month, it will increase by 16”, reaching 32’13” on 31 October.

Mercury will be in Virgo on 1 October. It moves to Libra, the Scales (*Tula*), on 12 October and then to Scorpio, the Scorpion (*Vrishchika*) on 29 October. Though Mercury does not climb much during this appearance, the planet moves almost parallel to the western horizon. Mercury reaches its maximum eastern elongation of 23.9° on 30 October.

Ephemeris of Mercury:

Date	Alt*	Diam"	Mag	El°
01 Oct	+04°59'	4.92	-0.5	13.4 E
10 Oct	+06°22'	5.19	-0.2	18.3 E
20 Oct	+07°32'	5.73	-0.2	22.2 E
30 Oct	+07°52'	6.70	-0.1	23.9 E

Venus will be in Leo, the Lion (*Simha*) on 1 October, and will cross to Virgo on 8 October. Venus’ morning appearance is now almost over. By the end of October, it will be just about 8° above the eastern horizon by the beginning of civil twilight. Yet its magnitude remains -3.9. If you are going to a star party this month, make sure that you look for Venus. It will present nice colours as its light passes through layers of Earth’s atmosphere.

Ephemeris of Venus:

Date	Alt*	Diam"	Mag	El°
01 Oct	+17°19'	11.08	-3.9	24.0 W
10 Oct	+14°38'	10.81	-3.9	21.8 W
20 Oct	+11°34'	10.56	-3.9	19.3 W
30 Oct	+08°23'	10.36	-3.9	16.8 W

List of Events in October 2025 (Time in IST)

Dt	Dy	Time	Event
03	Fr	05:24	Mercury 1.7° N of Spica
05	Su	14:50	Moon ascending node
06	Mo	08:16	Moon-Saturn: 3.8° S
06	Mo	10:35	Neptune 2.5 S of Moon
07	Tu	09:18	Full Moon
08	We	18:06	Moon perigee: 359800 km
09	Th	02:38	Jupiter-Pollux: 6.7° S
10	Fr	12:04	Uranus 5.1° S of Moon
10	Fr	10:50	Moon-Pleiades: 0.9° S
12	Su	09:00	Moon north declination: 28.5° N
13	Mo	23:43	Last quarter
14	Tu	04:01	Moon-Jupiter: 4.4° S
14	Tu	05:00	Moon-Pollux: 2.6° N
15	We	04:23	Moon-Beehive: 2° S
16	Th	22:26	Moon-Regulus: 1.4° S
18	Sa	10:04	Moon descending node
20	Mo	01:55	Mercury-Mars: 2° N
20	Mo	03:07	Moon-Venus: 4° N
21	Tu	09:24	Spica 1.0° N of Moon
21	Tu	17:37	Orionid shower: ZHR = 20
21	Tu	17:55	New Moon
23	Th	16:01	Mars 4.3° N of Moon
23	Th	21:45	Moon-Mercury: 2.5° N
24	Fr	05:01	Moon apogee: 406400 km
25	Sa	05:45	Moon-Antares: 0.6° N
26	Su	18:20	Moon south declination: 28.5° S
29	We	21:51	First quarter
30	Th	03:29	Mercury elongation: 23.9° E

Mars is in Virgo on 1 October and will move to Libra on 4 October. It is now moving rather quickly towards the western horizon. It will almost be gone by the end of the month and will reappear above the eastern horizon before dawn.

Ephemeris of Mars:

Date	Alt*	Diam"	Mag	El°
01 Oct	+15°22'	3.97	1.6	27.6 E
10 Oct	+12°02'	3.94	1.5	24.9 E
20 Oct	+08°39'	3.91	1.5	22.0 E
30 Oct	+05°38'	3.89	1.5	19.1 E

Jupiter remains in Gemini, the Twins (*Mithuna*), in October 2025. It is steadily climbing above the eastern horizon. By the month's end, it will be above the horizon by local midnight. If you have not observed the events of Jupiter's moons, please start doing that now. Observing these events is an unforgettable experience.

Ephemeris of Jupiter:

Date	Alt*	Diam"	Mag	El°
01 Oct	+68°36'	36.90	-2.1	75.6 W
10 Oct	+75°51'	37.87	-2.2	83.5 W
20 Oct	+83°58'	39.03	-2.3	92.6 W
30 Oct	+86°06'	40.25	-2.3	102.0 W

Saturn, which had moved to Aquarius, the Water Bearer (*Kumbha*) on 30 September, will remain in this constellation for the next few months. It is now climbing rapidly above the eastern horizon and can be observed nearly all night.

During the last few months, Saturn was seen in the early morning hours and India was covered with monsoon clouds. The Earth had crossed through the plane of Saturn's rings in March. For a short time the rings were just a line. This allowed us to spot some moons of Saturn above the rings. The rings are now opening up. Take a look.

Ephemeris of Saturn:

Date	Alt*	Diam"	Ring#	Mag	El°
01 Oct	+11°29'	19.32	43.8	0.7	168.8 W
10 Oct	+20°12'	19.23	43.6	0.7	159.4 W
20 Oct	+29° 43'	19.07	43.3	0.8	148.9 W
30 Oct	+38° 54'	18.86	42.8	0.8	138.4 W

Angular diameter of major axis of ring
***** Altitudes of a planet are given for the beginning of civil twilight if the planet is to the west of the Sun, or for the end of civil twilight if the planet is to the east of the Sun.

(*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 3 October the Moon will occult the 2.8 magnitude star Deneb Algedi (Delta Capricorni). The event will take place in the early part of the night. For details of this event, please see below, or visit https://skytonight.wordpress.com/ .

On 5 October, the nearly Full Moon can be seen west of Saturn. On 9 October, it is west of the Pleiades (*Kruttika*). On the night of 13 October the Moon passes through the Gateway of Heaven, and can be seen north of Jupiter in the early morning. On 17 October it can be seen east of Regulus (*Magha*).

Between 19 and 20 October, the Moon will pass south of Venus. For those who want to test their observation limits, 23 October offers a great challenge: Try spotting the thin lunar crescent south of Mercury and Mars soon after local sunset. On 24 October, the lunar crescent passes through the western arm of Scorpio. On 26 October, it will nearly be in the direction of the centre of the Milky Way galaxy.

Occultation

On 3 October 2025, the 3rd magnitude star Deneb Algedi (Delta Capricorni) will be occulted by the Moon. This event will be visible across India. The event takes place around 8:30 pm and ends by 10:00 pm, based on where the observer is located.

The disappearance will take place at the dark edge of the lunar disk. The disk itself will be about 84% illuminated and the Moon will be well above the horizon.

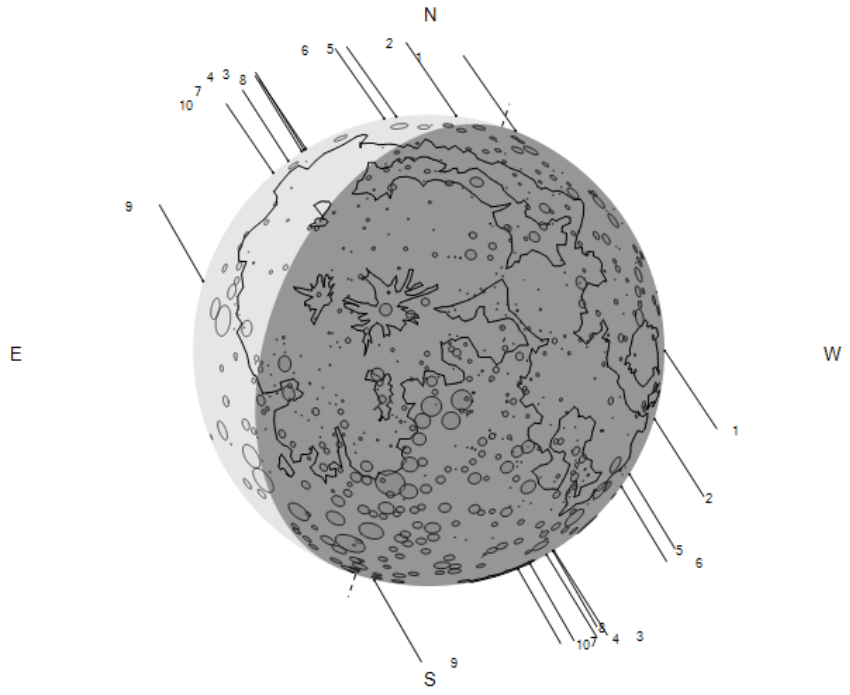
Deneb Algedi is a variable star, with its magnitude varying from 2.81 to 3.05, with a period of 1.0227688 days.

The timings of disappearance and reappearance are listed below for some major cities. For similar timings in some 70 locations across India, please visit https://skytonight.wordpress.com/ .

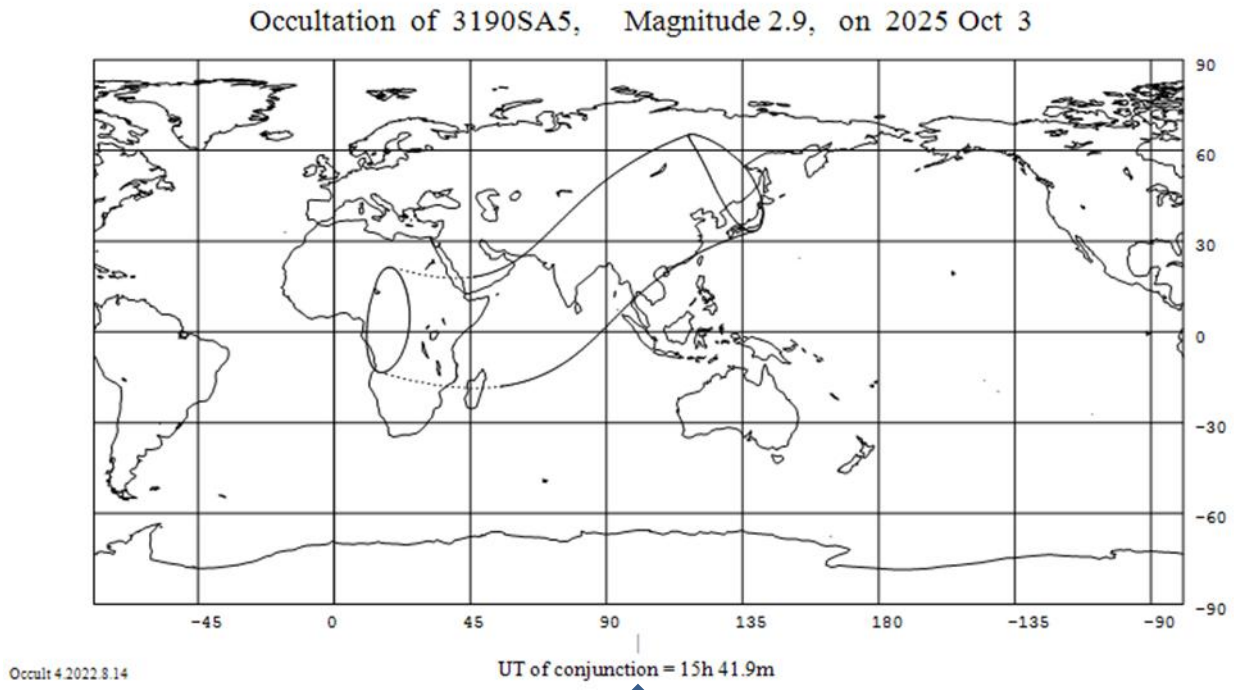
▼Occultation Prediction of Deneb Algedi, Magnitude 3.0

Date: 3 October 2025

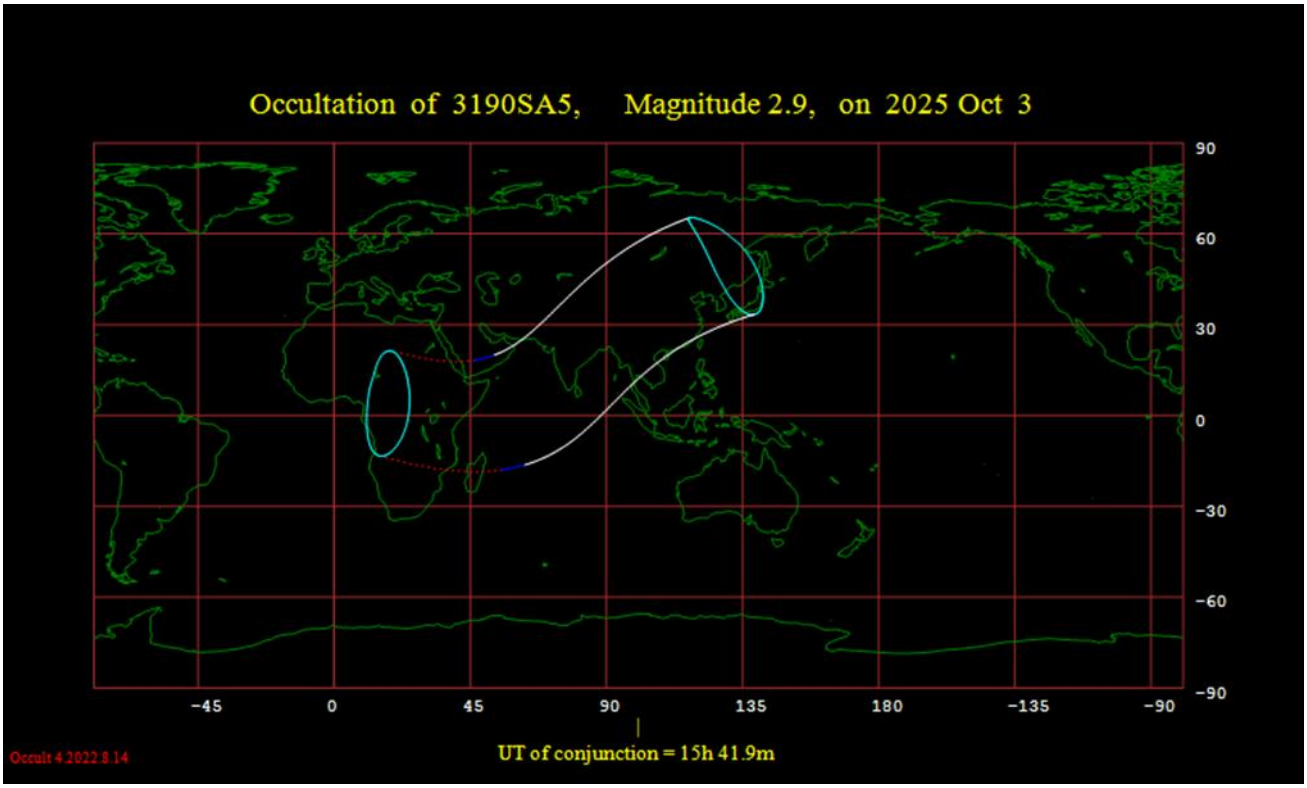
No.	Location	Disappearance			Reappearance	
		Time IST	Moon's Altitude (°)		Time IST	Moon's Altitude (°)
1	Leh	21:11:03	40		21:56:54	39
2	New Delhi	20:55:45	45		22:00:06	44
3	Guwahati	21:09:45	46		22:28:55	38
4	Kolkata	20:59:30	51		22:21:27	43
5	Mumbai	20:26:18	51		21:46:07	55
6	Pune	20:26:52	52		21:48:41	55
7	Chennai	20:28:42	59		21:56:34	58
8	Bengaluru	20:22:28	58		21:51:30	60
9	Port Blair	21:03:21	60		22:03:59	52
10	Thiruvananthapuram	20:13:42	61		21:42:36	65



Lunar map of disappearance and reappearance of Deneb Algedi. The numbers on the map correspond to the stations in the table above



World map of the event



Events Involving the Moons of Jupiter

In the table below, we have listed events that can be seen from India. The table gives the timings of eclipses, occultations, transits and shadow transits of the moons of Jupiter, suitable for Indian observers. The timings are given in Indian Standard Time (IST).

The output is given as per the following abbreviations and notations:

Columns: 1 = date; 2 = time; and 3 = satellite number.event type.phase.

Satellite numbers: 1 = Io; 2 = Callisto; 3 = Europa; and 4 = Ganymede.

Event type: Ec = eclipse; Oc = occultation; Tr = transit; and Sh = shadow transit.

Phase: D = disappear; R = reappear; I = ingress; and E = egress.

Example:

2	00:36:06	4.Sh.I
2	03:38:00	4.Sh.E

Means that

At 00:36:06 hours on 2 October, the shadow of Ganymede will begin its transit across Jupiter. Later at 03:38:00 hours the shadow will exit the face of the planet.

Satellites of Jupiter in October 2025

1	2	3	1	2	3	1	2	3
2	0:36:06	4.Sh.I	15	3:08:42	1.Sh.I	25	0:45:48	1.Tr.I
2	3:38:00	4.Sh.E	15	4:25:00	1.Tr.I	25	1:38:54	3.Ec.D
6	3:56:18	3.Sh.I	15	5:22:42	1.Sh.E	25	1:44:12	1.Sh.E
6	5:40:42	2.Ec.D	15	5:30:42	2.Tr.I	25	3:00:42	1.Tr.E
7	3:58:42	1.Ec.D	15	5:40:36	2.Sh.E	25	4:46:54	3.Ec.R
8	0:16:24	2.Sh.I	16	0:21:06	1.Ec.D	25	5:25:42	2.Oc.R
8	1:15:36	1.Sh.I	16	3:57:12	1.Oc.R	26	0:18:36	1.Oc.R
8	2:31:18	1.Tr.I	16	23:51:00	1.Sh.E	26	0:13:54	2.Tr.E
8	2:53:06	2.Tr.I	17	0:46:54	3.Ec.R	27	1:40:54	4.Ec.D
8	3:04:00	2.Sh.E	17	1:08:06	1.Tr.E	27	5:01:06	4.Ec.R
8	3:29:30	1.Sh.E	17	2:53:30	2.Oc.R	28	0:10:48	3.Tr.E
8	4:46:00	1.Tr.E	17	2:54:36	3.Oc.D	28	4:08:42	1.Ec.D
8	5:43:12	2.Tr.E	22	5:01:48	1.Sh.I	31	1:23:12	1.Sh.I
9	2:02:48	1.Oc.R	22	5:29:00	2.Sh.I	31	2:37:06	2.Ec.D
10	0:19:18	2.Oc.R	23	2:14:54	1.Ec.D	31	2:37:18	1.Tr.I
10	2:10:42	3.Oc.R	24	5:50:30	1.Oc.R	31	3:37:24	1.Sh.E
14	5:52:36	1.Ec.D	24	23:30:06	1.Sh.I	31	4:52:18	1.Tr.E
15	2:52:48	2.Sh.I	25	0:03:48	2.Ec.D			

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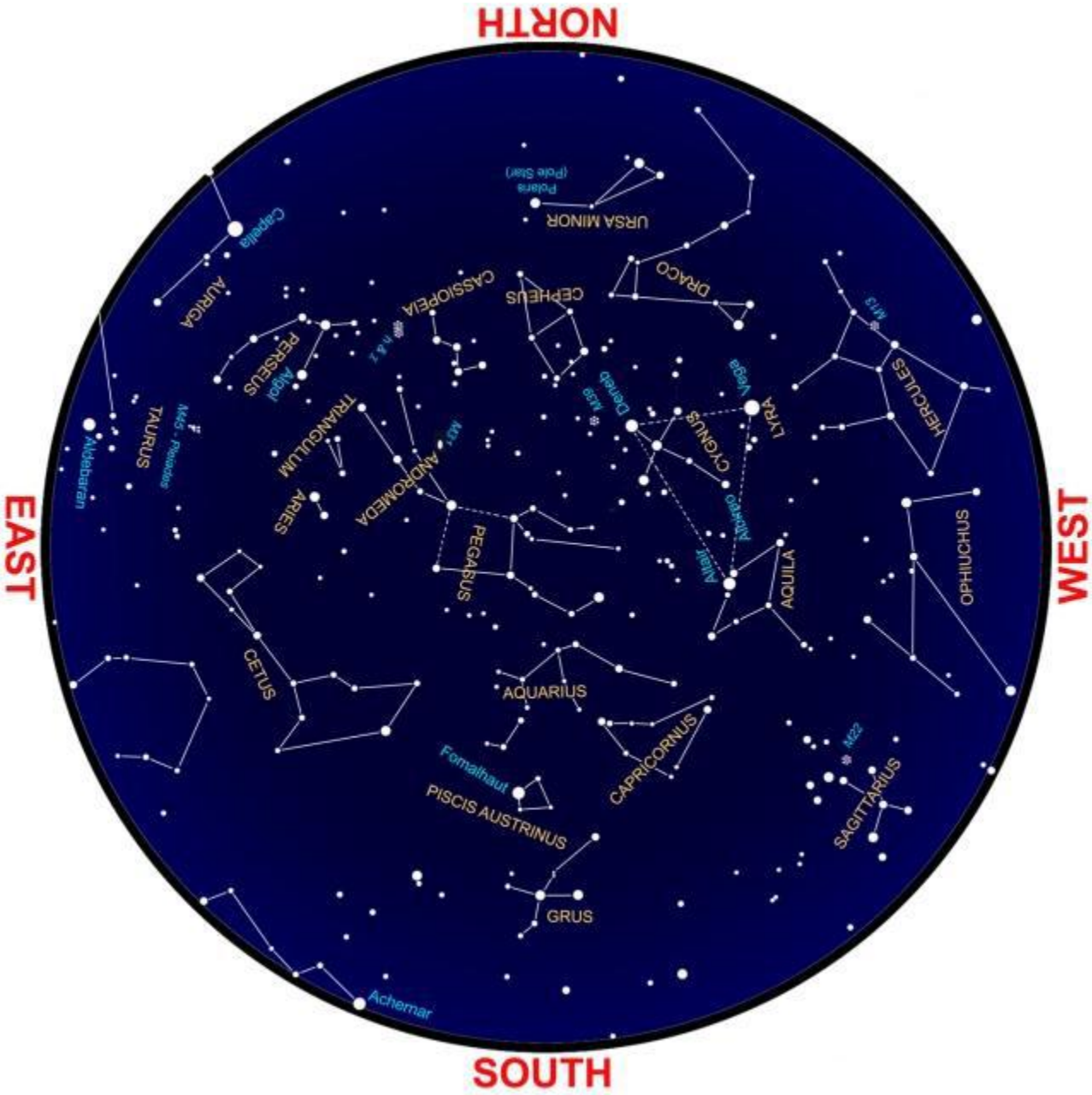
This sky map for October is drawn for mid-northern latitudes, to be used around 9:30 p.m. local time



For the latest updates, please visit https://skytonight.wordpress.com/monthly-sky-notes-and-links/

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