



SkyNews wishes its readers a happy, healthy and safe 2021

Sun and Planets

The Earth is at perihelion (closest to the **Sun**) on 2 January at 19:21. Its angular diameter will be $32'31.9''$. After this date, the angular diameter will start decreasing as the Earth moves away from the Sun. It will be $32'28.2''$ by the month-end.

Mercury reappears above the western horizon at sunset. Close to the mid-northern latitudes, the ecliptic is nearly vertical to the horizon at sunset and this makes observing Mercury an easy task.

From 9 to 12 January, Mercury passes very close to Jupiter and Saturn; but the angle between the planets and the Sun is just about 10° . Unless there is a clear sky close to the horizon, it will not be easy to spot these three planets. But it will be worth an attempt to look for the trio. On 10 January they will almost form an equilateral triangle within 5° .

By 12 January Mercury will set about an hour after the Sun; it reaches its maximum eastern elongation of 18.6° on 24 January. Around this date, Mercury will set about 80 minutes after sunset.

Venus can still be seen above the eastern horizon at sunrise. At the beginning of the month, it rises about one-and-a-half hours before the Sun; by the month-end, it rises about 45 minutes before sunrise.

Mars is nearly overhead this month and will set close to local midnight. This month you should attempt to locate Uranus with the help of Mars. On 20 January Mars passes within 1.6° of Uranus.

After witnessing their magnificent tango in

List of Events in January 2021

Dt	Dy	Time	Event
01	Fr	12:35	Moon-Beehive: 2.5° S
02	Sa	14:29	Perihelion: 0.9833 AU
03	Su	06:40	Regulus 4.5° S of Moon
03	Su	20:17	Quadrantid shower: ZHR = 120
06	We	15:07	Last quarter
09	Sa	21:09	Moon perigee: 367400 km
10	Su	10:21	Antares 5.4° S of Moon
11	Mo	01:44	Moon descending node
12	Tu	01:41	Moon-Venus: 1.5° N
12	Tu	13:48	Moon south declination: 24.9° S
13	We	10:30	New Moon
14	We	03:18	Saturn 3.2° N of Moon
14	Th	08:02	Jupiter 3.2° N of Moon
14	Th	14:37	Mercury 2.3° N of Moon
21	We	00:24	Mars 1.6° N of Uranus
21	Th	02:32	First quarter
21	Th	18:41	Moon apogee: 404400 km
24	Su	07:29	Mercury elongation: 18.6° E
24	Su	07:56	Saturn conjunction
25	Mo	03:17	Moon ascending node
26	Tu	21:09	Moon north declination: 24.9° N
28	Th	20:20	Moon-Beehive: 2.4° S
29	Fr	00:46	Full Moon
29	Fr	06:21	Jupiter conjunction
30	Sa	13:32	Regulus 4.3° S of Moon

December, it is now time to say goodbye to **Jupiter** and **Saturn**. By mid-month, the planets will be too close to the Sun for observation.

Transitions of the Sun and Planets

(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.)

The Sun is in Sagittarius, the Archer (*Dhanu*) and moves to Capricornus, the Sea Goat (*Makar*) on 20 January.

Mercury too is in Sagittarius and moves to Capricornus on 8 January.

Venus is in Ophiuchus, the Serpent Bearer (*Bhujangadhari* or *Sarpdhar* or *Naraturunga*) as the month begins and moves to Sagittarius on 6 January.

Mars moves from Pisces, the Fish (*Meena*) to Aries, the Ram (*Mesha*) on 5 January.

Both Jupiter and Saturn continue their journey through Capricornus in January. Note that the Sun moves to Capricornus this month. As Jupiter and Saturn move closer to the Sun, we must get ready to say goodbye to them as they will cease to be visible in the sky owing to the glare of the Sun.

March of the Moon

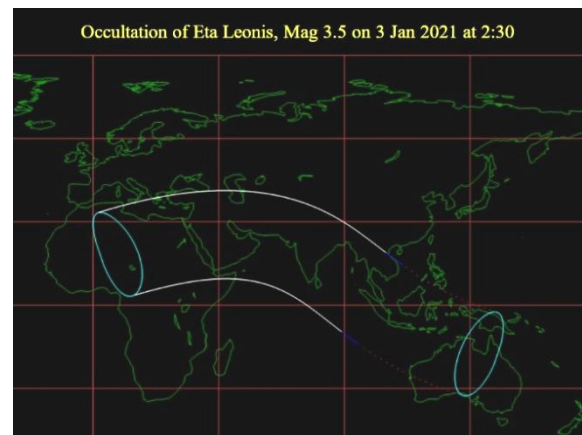
On the night of 2 January, the nearly 85% illuminated Moon will occult Eta Leonis, a 3.5 magnitude star. The brighter limb of the Moon will occult the star at about 2:30 am (on 3 January); and the latter will reappear about 90 minutes later (see the occultation section below.) On 7 January at dawn the nearly half illuminated Moon can be seen 7° north of Spica (α Virginis).

On 11 January the thin lunar crescent can be seen right above Venus in the early morning sky. New Moon is on 13 January. The next evening on 14 January the thin lunar crescent can be seen less than 3° northeast of Mercury over the western horizon soon after sunset (see 'Mercury' above).

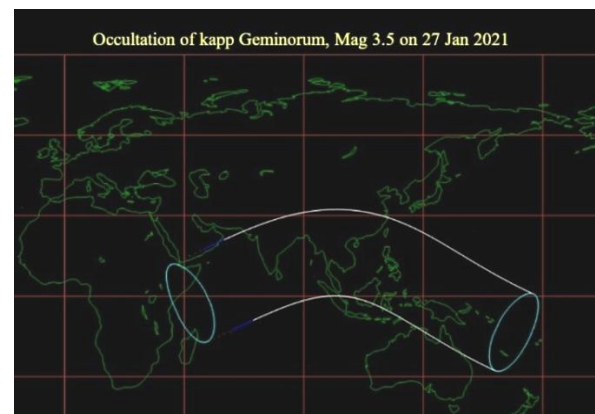
On 23 January the Moon can be seen between the Pleiades (*Kruttika*) Cluster and Aldebaran (*Rohini*). On 27 January the Moon will occult Kappa Geminorum, a 3.5 magnitude star. This will be a challenging event to observe as the Moon will be almost 98% illuminated.

Occultation of Bright Stars by the Moon

- 1) Date: 3 January 2021
Star: Eta Leonis
Magnitude: 3.5
Disappearance: ~ 02:30
Reappearance: ~ 03:45
Moon illumination: 85%

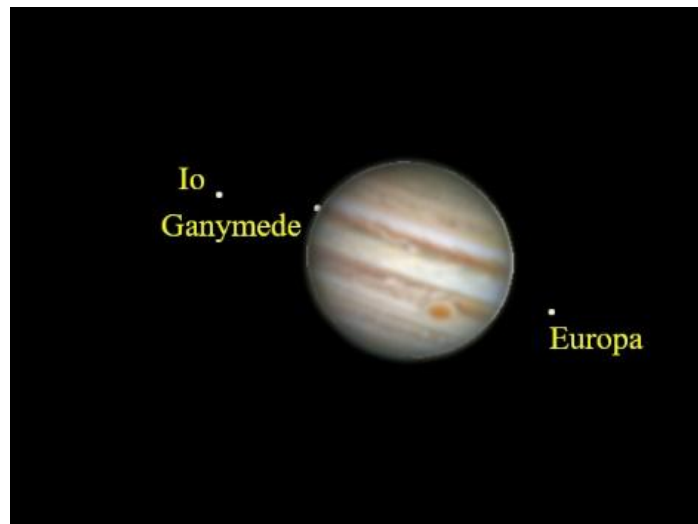


- 2) Date: 27 January 2021
Star: Kappa Geminorum
Magnitude: 3.5
Disappearance: ~ 20:00
Reappearance: ~ 20:30
Moon illumination: 98%



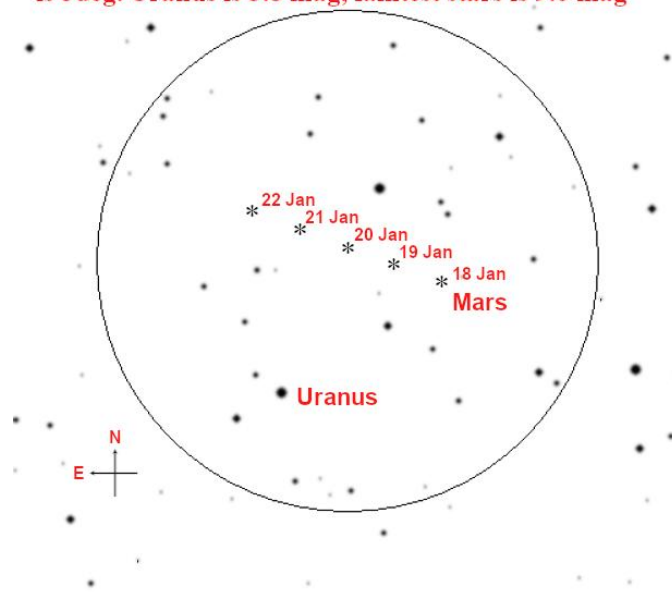
Moons of Jupiter

Transit of Ganymede will take place on 12 January at 19:01:30 IST



Track of Mars with Respect to Uranus

Positions of Mars at 19:00 IST, the circle diameter is 5deg. Uranus is 5.8 mag, faintest stars is 9.0 mag



Acknowledgements:

<http://www.lunar-occultations.com/iota/occult4.htm>

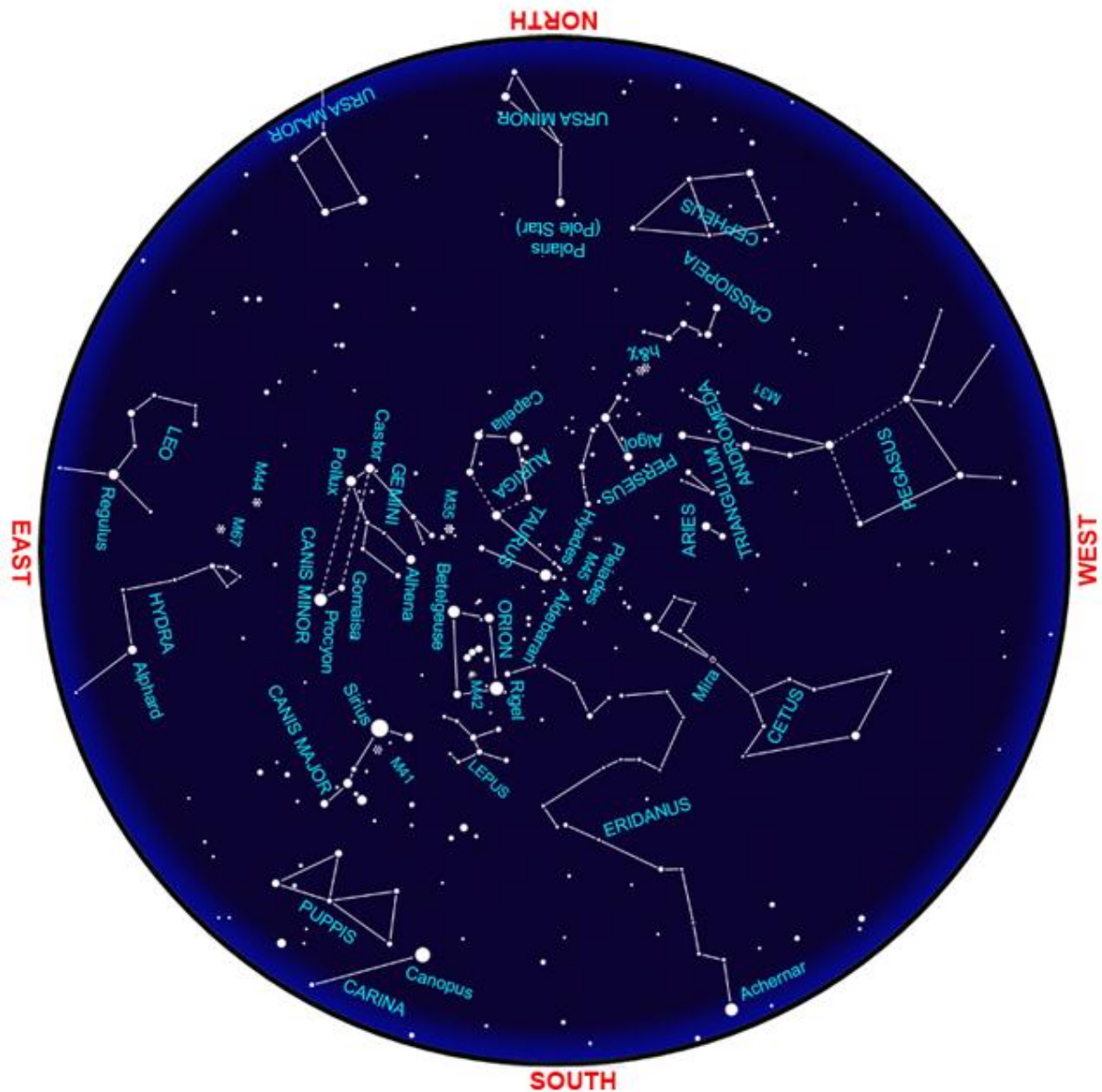
by Dave Herald for International Occultation Timing Association.

<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/>

This sky map for January 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/>

These pages are contributed by:

Arvind Paranjpye (paranjpye.arvind@gmail.com) (<http://arvindparanjpye.blogspot.com/>) and Anjaneer Rao (rao.anjaneer@gmail.com)