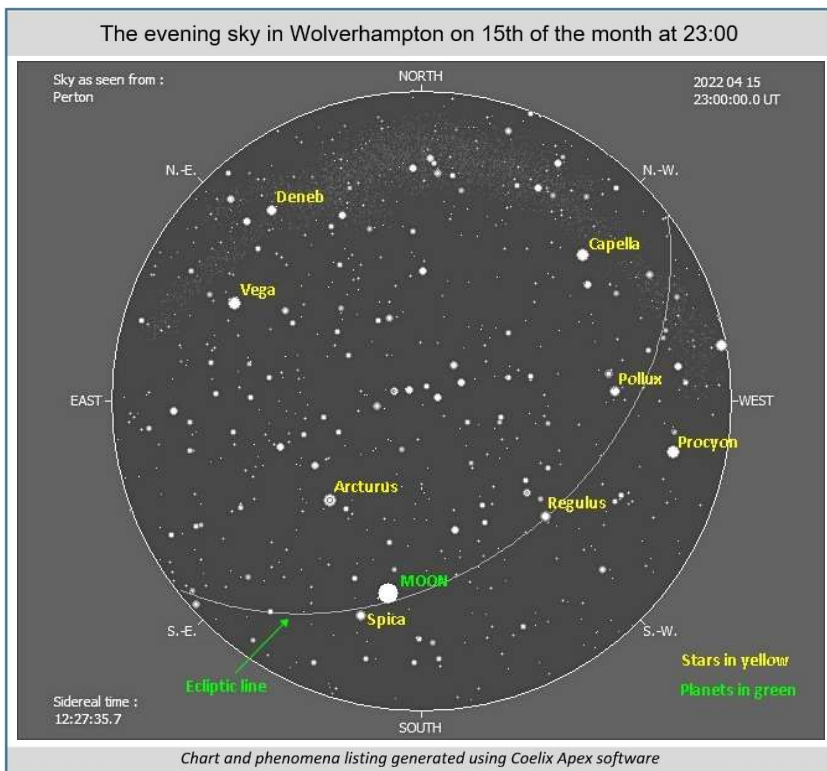


The Night Sky in April 2022

- a quick and easy guide



Monthly Guide
Compiled
by Doug Bickley

MOON PHASES	
New Moon	1 Apr
First quarter	9 Apr
Full Moon	16 Apr
Third (last) quarter	23 Apr

Space Diary

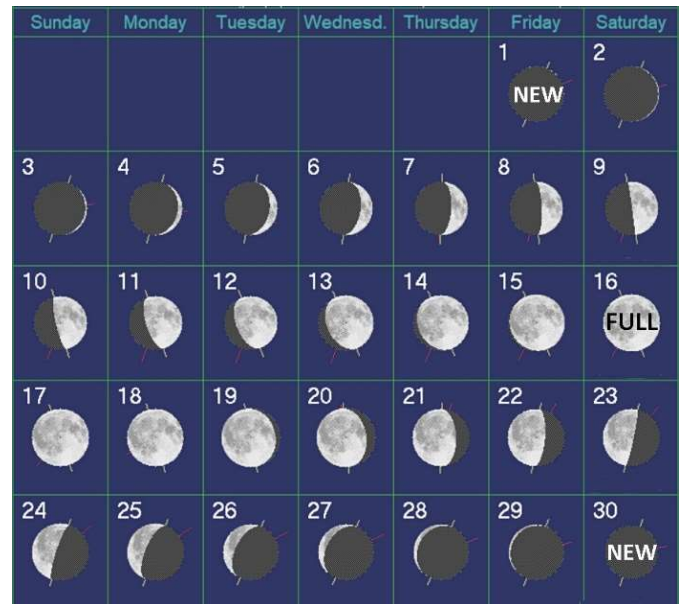
Events this month to look out for:

- 3 Venus, Mars and Saturn in a line as they rise (morning twilight)
- 3 Crescent Moon close to Uranus (evening twilight)
- 4 Crescent Moon below Pleiades M45 (evening)
- 5 Mars close to Saturn, right of Venus (morning twilight)
- 5 Crescent Moon forms a triangle with Pleiades and Aldebaran (evening)
- 9 Moon in a line with Castor and Pollux (evening)
- 10 Moon above Beehive Cluster M44 (evening)
- 16 Full Moon
- 17 Mercury and Uranus close (evening twilight)
- 21 Venus, Mars and Saturn in a line as they rise (morning twilight)
- 22/23 Lyrid Meteor shower Peak (23 morning unfavourable Moon)
- 24 Saturn, Mars, Venus and Jupiter rise in a line in Aquarius (morning)
- 25 Moon below Saturn and right of Mars (morning twilight)
- 26 Moon below Mars and left of Saturn, Venus and Jupiter to left (morning twilight)
- 27 Crescent Moon below Venus and right of Jupiter (morning twilight)
- 29 Mercury close to Pleiades M45 (evening twilight)
- 30 Jupiter above right of Venus (morning twilight)

Moon

My usual schematic of the moon phases over the month of April shows something unusual – there are two new moons this month. These are on 1 and 30 April and full moon is on 16 April. A month where there are two new moons occurs about once every 29 months, and you might have heard the second new moon called a Black Moon – spooky but not an astronomical term, however popular in astrology and social media.

Our gardens are coming to life and April's full moon is called the pink moon after a species of early blooming wildflower. In other cultures, this moon is called the sprouting grass moon, the egg moon, and the fish moon. Take your pick.



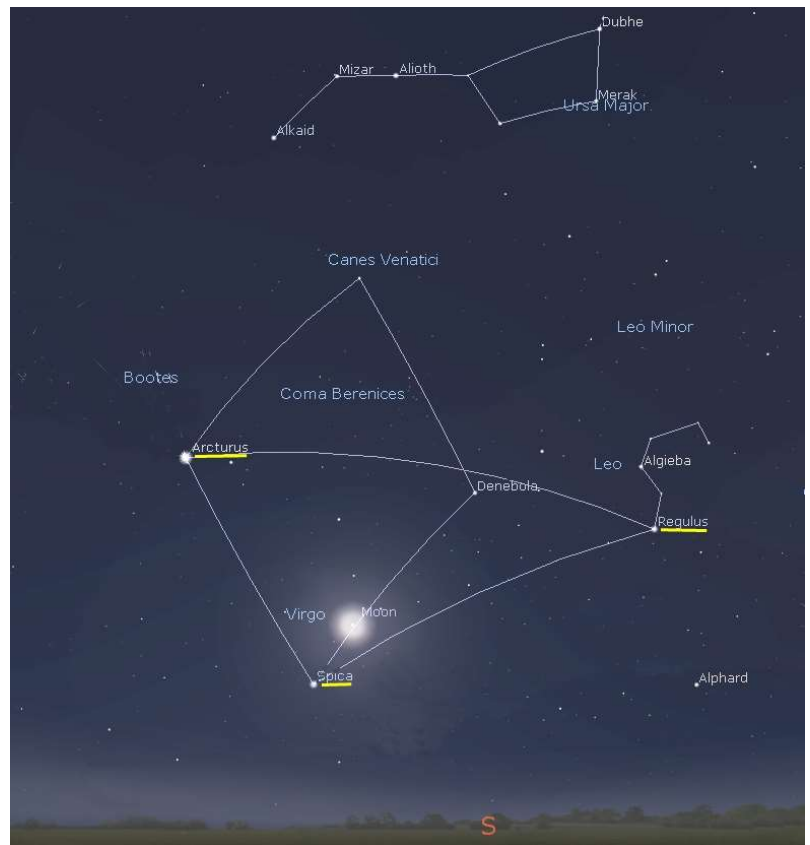
The sky this month

The spring triangle of three bright stars dominates the major constellations of the April skies. Look for Regulus in Leo, with Virgo's leading star Spica to the lower left, and orange Arcturus in Boötes lying above.

The seasonal change from winter constellations to spring constellations is more or less complete. The Plough is practically overhead, with the 'W' of Cassiopeia at its lowest. The stars Vega and Deneb, which form two thirds of the summer triangle, are rising in the northeast but it will be a while before they become more prominent.

The main spring stars can now easily be found as shown in this picture.

In the south is the constellation Leo (the Lion) with the bright star Regulus at its base. To "star hop" to Regulus use the two pointers in the Plough and rather than drawing a line to Polaris, look in the opposite direction. The Plough can also help us find two other bright stars in the spring sky. Using the handle of the Plough draw a curve round and down and to the right. You will reach the bright orange star Arcturus in the constellation of Boötes (the Herdsman). Continue the line further and you will reach the bright blue-white star Spica in the constellation of Virgo (the Virgin).



Spring Triangle on 15 April generated using Stellarium software

Using the handle of the Plough draw a curve round and down and to the right. You will reach the bright orange star Arcturus in the constellation of Boötes (the Herdsman). Continue the line further and you will reach the bright blue-white star Spica in the constellation of Virgo (the Virgin).

Planets this month

Here is the usual run down of planetary movements for the month of April. The planet this month are morning objects but if you are comfortable with observations at this time there are some interesting conjunctions to be aware of.

Jupiter is in the East in Pisces low down in the morning sky at April's start rising 20 minutes before the Sun and therefore poorly positioned for observing. By the month end the position improves and the planet appears above the eastern horizon shining at mag. -1.9 an hour before sunrise.

Saturn is in the SE in Capricornus, a still low morning planet but there are some nice conjunctions to view if you are lucky. On 4 and 5 April, Mars appears close to Saturn, but a flat SE horizon will be needed to see this. Saturn will be shining at mag. +0.9 and Mars at mag. +1.0. Bright Venus will be very close to the left of the pair as seen from the UK. A waning crescent Moon sits near on the mornings of 24 and 25 April.

Mars is in the ESE in Aquarius Capricornus at an altitude of 6°. At the start of the month mag. +1.0 Mars and mag. +0.9 Saturn converge and are very close on 5 April. This is in the early morning twilight so viewing won't be easy, but mag. -4.2 Venus is also close to give you a guide.

Venus is the E in Pisces and a morning planet, remaining low all month. At the start of the month Venus is close to mag. +1.1 Mars and mag. +0.9 Saturn and by month end Venus is close to mag. -2.0 Jupiter. On 27 April if you have a flat ESE horizon you might see Venus and Jupiter close together with a waning crescent Moon below.

Mercury is fairly low at an altitude of 13° in the WNW in Taurus. It reaches superior conjunction on 2 April when it appears to line up with the Sun on the far side of its orbit, and therefore won't be visible at the start of the month. However it then emerges into the evening sky, appearing bright and distancing itself from the Sun rapidly. On 8 April Mercury shines at mag. -1.6 and sets 35 minutes after sunset. By 12 April the planet will be setting a 60 minutes after the Sun. Mercury reaching greatest eastern elongation on 29 April when it will be separated by 20° from the Sun. On 29 April Mercury will be just south of the Pleiades open cluster.

Uranus is very low in the West in Aries and will be difficult to make out this month.

Neptune is a morning planet, but not observable this month.

Meteor Showers

The first major meteor shower since January can be seen this month.

The Lyrids is an average shower, with up to 20 meteors per hour at its peak. It is produced by dust particles left behind by comet C/1861 G1 Thatcher, which was discovered in 1861. The shower runs annually from 16 to 25 April 16-25 and peaks this year on the night of the night of the 22nd and morning of the 23rd. These meteors can sometimes produce bright dust trails that last for several seconds.

The waning gibbous moon may block some of the fainter meteors this year, but there is still potential for a good show. Use our meteor viewing tips from previous issues of this guide but your best bet will be to find a dark location after midnight. Meteors will radiate from the constellation Lyra, but can really appear anywhere in the sky.

International Space Station (ISS) forecast time for evening passes visible this month.

There are not many forecast passes in April but keep an eye on the Heavens-Above website.

[source: <https://www.heavens-above.com/>]

Date	Mag	Transit time	Start			High point	End		
			Time	Alt.degs.	Az.		Time	Alt.degs.	Az.
01-Apr	-1.0	01:56	21:40	10°	WSW	11°	21:41	10°	SSW
02-Apr	-1.3	04:17	20:50	10°	WSW	16°	20:55	10°	S
26-Apr	-0.9	00:33	04:49	10°	SE	10°	04:50	10°	SE
28-Apr	-1.8	05:04	04:46	10°	SSW	20°	04:52	10°	E
29-Apr	-1.4	03:19	03:59	11°	S	14°	04:03	10°	ESE
30-Apr	-2.8	06:10	04:45	10°	SW	35°	04:52	10°	E

Phenomena of the month of April (generated using Coelix Apex software):

	Date	Hour	Description of the phenomenon
	yyyy mm dd	hh:mm	
1	2022 04 01	02:24	NEW MOON
2	2022 04 02	19:10	SUPERIOR CONJUNCTION of Mercury with the Sun (geoc. dist. center to center = 1.0°)
3	2022 04 03	15:17	Close encounter between the Moon and Uranus (topocentric dist. center to center = 0.9°)
4	2022 04 04	21:41	Close encounter between Mars and Saturn (topocentric dist. center to center = 0.3°)
5	2022 04 07	15:11	Moon at apogee (geocentric dist. = 404438 km)
6	2022 04 07	17:22	Close encounter between the Moon and M 35 (topocentric dist. center to center = 1.9°)
7	2022 04 09	02:47	FIRST QUARTER OF THE MOON
8	2022 04 12	10:54	Close encounter between Jupiter and Neptune (topocentric dist. center to center = 0.1°)
9	2022 04 13	18:00	Mercury at its perihelion (distance to the Sun = 0.30750 AU)
10	2022 04 16	14:55	FULL MOON
11	2022 04 17	23:46	Close encounter between Mercury and Uranus (topocentric dist. center to center = 2.0°)
12	2022 04 19	11:16	Moon at perigee (geocentric dist. = 365143 km)
13	2022 04 22	15:00	Meteor shower : Lyrids (18 meteors/hour at zenith; duration = 9.0 days)
14	2022 04 23	07:56	LAST QUARTER OF THE MOON
15	2022 04 27	01:15	Close encounter between the Moon and Venus (topocentric dist. center to center = 4.3°)
16	2022 04 27	15:14	Close encounter between Venus and Neptune (topocentric dist. center to center = 0.0°)
17	2022 04 29	06:00	GREATEST EASTERN ELONGATION of Mercury (20.4°)
18	2022 04 29	23:25	Close encounter between Mercury and the Pleiades (topocentric dist. center to center = 1.4°)
19	2022 04 30	16:28	NEW MOON (partial eclipse of the Sun not visible in Perton)
20	2022 04 30	16:56	Close encounter between Venus and Jupiter (topocentric dist. center to center = 0.2°)

PERTON LIBRARY ASTRONOMY GROUP (PLAG)

The group meets on the third Thursday of every month of the year at Perton Library (WV6 7QU), from 7pm to 9pm. As we come out of lockdown, when numbers in the room had been limited, we are trying to re-launch the group. A very relaxed and friendly gathering, we are particularly suited to beginners who very often bring their telescopes along for advice on how to set up – we have experienced members who can help with this.

If the skies are clear we try to do some observing from an area at the rear of the building. Just turn up, no need to book and membership is free.

WOLVERHAMPTON ASTRONOMICAL SOCIETY LECTURES

Whilst we are now planning and hoping that we can recommence in person meetings and lectures from September, we are continuing with our programme of online lectures and will supplement these with “in person” meetings for astronomical events, so keep an eye on our social media for announcements. We also have regular Monday evening chat nights on Zoom throughout the year, the first 30 minutes for beginners to ask questions, in these sessions we give basic astronomy advice and swap tips, sometimes with a short talk.

Invitations to all talks are emailed to members. For the coming year Wolvas subscription remains a bargain at £10 per annum and you can sign up now our website www.wolvas.org.uk and pay your subscription by bank transfer or other means (see website).

Lectures online will only be available to paid-up members of Wolverhampton Astronomical Society. We continue to try and bring you some of the best speakers around and we have an exciting line up for the coming season. Our programme of speakers for the remainder of the 2021/22 season is shown below and plans are well under way for the next season. We are looking for a suitable venue for “in person” meetings for our 2022/23 lecture programme starting in September, and we are may combine this with a hybrid streamed service. We are close to finalising a venue so please do watch this space and our website.

Remaining Lectures for the 2021/22 season:

11/04/22	Paul Fellows	Fire & Ice: The Volcanic Worlds of the Solar System
16/05/22	Damian Hardwick	The Life of Albert Einstein
13/06/22	Katrin Raynor-Evans	Exploring Astronomy & Space through Philately

Watch out for updates

As well as our webpage www.wolvas.org.uk we will be posting details of events on social media, so keep an eye on our Facebook (<https://www.facebook.com/wolvasuk>) and Twitter (<https://twitter.com/wolvasuk>) accounts for the latest updates and news.