

EXMOOR STARGAZING CALENDAR

JULY 2017

Best month of the year to see **Jupiter** and **Saturn** in the evening sky. Look south-west after sunset for a bright star-like object in the fading twilight. This is Jupiter – the biggest planet in our solar system. On July 28th a crescent moon sits next to Jupiter low over the western horizon as it starts to get dark. Now cast your eyes towards the south. A very noticeable but less bright star-like object with a soft yellow hue hangs above the southern horizon. This is Saturn – the ringed planet. To aid identification the moon rests close to Saturn on July 6th. For early risers Venus is visible as a piercing bright white light low to the east ahead of sunrise in July. A thin crescent moon joins Venus on the morning of July 20th.

AUGUST 2017

Want to see some shooting stars? August is the best month of the year to look for them with the annual **Perseids Meteor Shower** reaching its peak on 11 – 13 August 2017. Expect to see anywhere between 50 to 100 shooting stars per hour from 10pm until dawn. You're looking for fast-moving streaks of light radiating across the sky from near the constellation of Cassiopeia, which looks like a giant 'W' pattern of stars high up to the north-east on August evenings. The Perseids Meteor Shower is active from July 18th to August 24th but in lower numbers, so do look out for shooting stars on any of these nights.

SEPTEMBER 2017

September is the best month of the year to see the **Milky Way from Exmoor**. Choose a clear moonless evening between September 12th and September 22nd, head up onto Exmoor and look up. Stretched overhead, running roughly north-south, you'll see a band of speckled dusty light arching across the sky with darker rifts and brighter zones. This is the Milky Way – our galaxy – and what you'll be seeing is the collected starlight of some of the 300 to 400 billion stars that make up our home galaxy.

OCTOBER 2017

October 2017 is the **last chance to see Saturn** in the evening sky this year. Look for a bright star-like object low to the south-west as it starts to get dark. A small telescope is all that is needed to get a view of Saturn's famous rings. For early risers **Venus and Mars** are the draw this month. Look to the east ahead of daybreak on October 2nd until October 8th to see the two planets share a brief encounter in the morning sky. Venus is extremely bright, much brighter than the dim red hue of Mars. The two planets are closest together on Thursday morning October 5th when they'll both be visible in the same field of view using a small telescope.

NOVEMBER 2017

How far can you see? Test your eyesight this November. On a clear moonless night look up high in the sky towards your south mid-evening for a large square pattern of stars of equal brightness. From the top of the square follow an arc of stars over towards your top left, which curves beneath the giant 'W' pattern of stars making up the constellation of Cassiopeia. From the square move your view left along to the first star in the curved line, and cast your vision slightly above it. Between that star and the 'W' of Cassiopeia you should see what appears to be a faint smudge of light in the sky. This is the **Andromeda Galaxy**, and the smudge you're seeing is the collected starlight of more than a trillion stars in a vast orbit around a supermassive black hole more than 2.5 million light years away. Binoculars or a small telescope will show this distant galaxy beyond our own in much more detail.

DECEMBER 2017

Mid-December sees one of the strongest meteor showers of the year reach its peak. Up to 120 bright shooting stars per hour can be seen on the nights of December 13th and December 14th as the **Geminids Meteor Shower** hits its stride. Best viewing time will be from 10pm onwards through until dawn. This is an all-sky event with meteors streaking across the sky from a radiant in the constellation of Gemini. The Geminids Meteor

Shower is active from December 4th to December 17th, but yield lower numbers of shooting stars either side of the 13 – 14 December peak.

JANUARY 2018

After sunset on New Year's Day look to the east to see a **Supermoon** rising. The closest full moon to Earth since November 2016, tonight's Supermoon is the first of two Supermoons that we'll see in 2018. At moonrise on January 1st the full moon is just 356,615kms away, and will look bigger and brighter than at any point in 2017. Through the evening the moon continues to brighten, edging closer to us. By 2:20am on January 2nd tonight's supermoon reaches its closest point to Earth at 356,565kms distance. Further moonwatching excitement is available on the morning of January 11th when a now more distant crescent moon passes close to **Jupiter and Mars**. It'll be a very photogenic gathering towards the south ahead of sunrise that morning.

FEBRUARY 2018

Winter brings out the Huntsman. **Orion** is an iconic constellation with a big celestial story to tell. To find him look towards your south on a clear February evening. You'll likely notice his belt first; three bright white stars slung together in a line that mean so much to MIB aficionados. But Orion is much bigger than his belt! A giant rectangle of four bright stars enclose the belt, marking out Orion's shoulders and feet. Above his fiery orange left shoulder he holds a club aloft; off his right shoulder he draws his bow, and from his belt hangs his sword. This guy really is the Ancient Greeks' version of *Action Man*. Dig a little deeper though and our Huntsman yields some truly stellar secrets. Switch your view to binoculars and train them on the sword. Notice that uneven cloud of misty light? It's a stellar nursery where new stars are being born. Now take a closer look at Orion's left shoulder. That fiery orange star is **Betelgeuse** – a red supergiant 950 times bigger than our sun on the verge of exploding as a supernova. It's birth and death in the universe inside one constellation.

MARCH 2018

The Plough is a familiar constellation found high up to the NE during springtime. Also known as Ursa Major, the Great Bear, the Big Dipper and the Saucepan, it contains an interesting naked eye challenge! Look closely at the middle star in the Saucepan handle. Can you see a fainter star very close to the brighter one a little to its lower left? If you can see the two stars you're doing well. The Romans used these two stars as an eyesight test for entry to the roman army. The bright one is called **Mizar**; the fainter one is **Alcor**. Translated they mean 'horse' and 'rider'. Get them in a telescope and the brighter star itself splits out into two stars in orbit around each other, making for a triple star system.

APRIL 2018

The Lyrids Meteor Shower in 2018 promises a spectacular explosion of shooting stars across the sky from the eastern horizon. Best time to view is from 11pm onwards on April 20th to April 22nd. Look out for up to 20 or 25 meteors per hour streaking across the sky from a location close to the bright blue-white star Vega, which lies low to the north-east late April evenings. After midnight the shower's radiant near Vega is higher in the sky, meaning that we should get a better view of the Lyrids as we move into the early morning hours.

MAY 2018

In May 2018 **Jupiter reaches its closest point to Earth** for the year, and so it appears at its brightest in the sky and its biggest in a telescope this month. Wednesday 9 May is opposition night. This is when Jupiter is directly opposite the sun, meaning that the biggest planet in our solar system is visible all night long from Exmoor between dusk and dawn. To find Jupiter in May look for a bright star-like object low in the SE as it gets dark. Through the night Jupiter rises higher in the sky. Between midnight and 1am it reaches its highest point directly towards the south at about +25 degrees above the southern horizon. Jupiter in a telescope is an amazing sight. Look out for the dark bands crossing the planet's disc, and Jupiter's four bright moons - Io, Europa, Ganymede and Calisto.

JUNE 2018

June is the best month of the year to seek out the ghostly electric-blue braids of light from **noctilucent cloud displays**. These extremely high-level ice cloud formations generally occur over the northern horizon between 11pm - 2am. They are best seen with the naked eye or with binoculars. Noctilucent clouds are notoriously difficult to predict, so keep your eye on the sky to your north on any clear night in June to catch their eerie glow.