

St Benedict's NIGHT SKY NEWS – May 2022

St Benedict's is a member of the **SOCIETY FOR POPULAR ASTRONOMY** and receives regular newsletters regarding astronomical events and information. If you would like to be included on the mailing list for these, please contact JGregory@st-benedicts.suffolk.sch.uk

THE MOON THIS MONTH

PHASE

New Moon	1st
1st Quarter	9th
Full Moon	16th
3rd Quarter	23rd

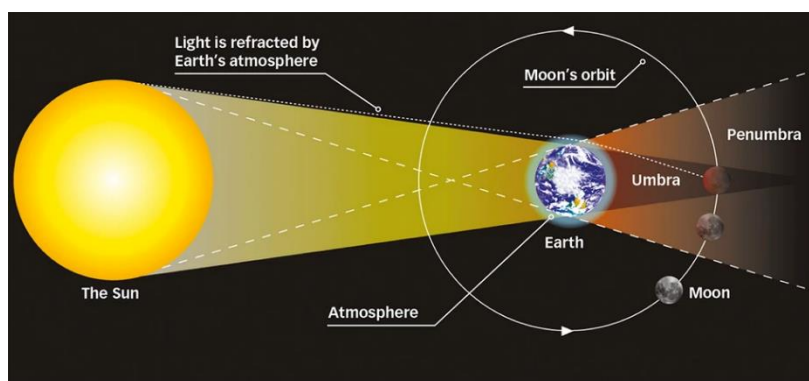
**MAY 16th TOTAL LUNAR ECLIPSE:
THE BLOOD
FLOWER MOON**

This is a special month for Moonwatchers, as a TOTAL LUNAR ECLIPSE will be visible in the early hours of Monday, May 16th – weather permitting, of course.

The practice of naming a particular month's Full Moon is heavily influenced by the native tribes of North America. **Flower Moon** has been attributed to Algonquin peoples of North America and Canada. It is also referred to as the **Month of Flowers** by the Naudowessie (Dakota) tribe. The Cree names **Budding Moon** and **Leaf Budding Moon** celebrate the awakening of local flora, which really begin to leaf out now in many areas. Similarly, **Planting Moon** (Dakota, Lakota) marks the time when seeds should be started for the farming season ahead. The activities of animals marked spring's arrival, too, which is highlighted by the Cree names **Egg Laying Moon** and **Frog Moon**, as well as the Oglala term **Moon of the Shedding Ponies**. All three names indicate that warmer weather is on the way!



Old English names for the May Moon are **Mother's Moon** and **Milk Moon**, from the Old English *Rimilcemon* which means **Month of Three Milkings**, when cows were milked three times a day.



When a total lunar eclipse occurs the Moon often takes on a ghostly, orange-red hue – hence, it is called a **BLOOD MOON**, so this month's Full Moon becomes the **BLOOD FLOWER MOON**. This colouring phenomenon is caused by the Sun's light passing through the Earth's atmosphere and being refracted in such a way that the longer, "red" wavelengths illuminate the Moon in the Earth's shadow, while the shorter, "violet"

wavelengths are scattered away. How pronounced the "red" colour becomes depends on the atmospheric conditions at the time. A lunar eclipse can also be yellow, orange, or brown in colour. This is because different types of dust particles and clouds in Earth's atmosphere allow different wavelengths of light to reach the surface of the Moon.

For a lunar eclipse to occur, the Sun, Earth, and Moon must be roughly aligned in a line. Otherwise, the Earth cannot cast a shadow on the Moon's surface and an eclipse cannot take place. When the Sun, Earth, and Moon come together in a straight line, a total lunar eclipse takes place. When the three bodies are aligned in a way that the Moon is partly covered by the Earth's umbra, a partial lunar eclipse is the result. On the other hand, if only the outer part of Earth's shadow covers the Moon, a penumbral lunar eclipse takes place.

On the face of it, you may think that a lunar eclipse should occur every month, ie., every orbit of the Moon. However, it doesn't because the Moon's orbit around the Earth is tilted (by about 5 degrees) in relation to the line between the Earth and the Sun – the “plane of the ecliptic”.

The following table contains information for viewing the eclipse from Bury St Edmunds:

Time	Event	Direction	Altitude
02:32 Mon, 16 May	<i>Penumbral Eclipse begins</i> The Earth's penumbra start touching the Moon's face.	205°	14.5°
03:27 Mon, 16 May	<i>Partial Eclipse begins</i> Partial moon eclipse starts - moon is getting red.	217°	10.0°
04:29 Mon, 16 May	Total Eclipse begins Total moon eclipse starts - completely red moon. Moon close to horizon, so make sure you have free sight to Southwest.	230°	3.6°
04:58 Mon, 16 May	Maximum in Bury St Edmunds This is the moment when the eclipse reaches its greatest magnitude while the entire Moon is above the horizon in Bury St Edmunds. The true maximum point of this eclipse cannot be seen in Bury St Edmunds because the Moon is below the horizon at that time. Since the Moon is near the horizon at this time, we recommend going to a high point or finding an unobstructed area with free sight to Southwest for the best view of the eclipse.	236°	0.3°
05:04 Mon, 16 May	<i>Moonset</i> Setting, but the combination of a very low moon and the total eclipse phase makes the Moon so dim before it sets, that it might disappear from view some time before it sets.	237°	-0.2°

Note that the “total” phase of the eclipse, when we may see the “blood Moon”, begins when the Moon is setting very low to the horizon in the west. You will therefore need a clear, unobstructed view. As the Moon is so low, it should actually appear much larger than it really is – this is known as the “Moon illusion” – and is best seen when associated with the rising, harvest Moon in the autumn.

<https://www.timeanddate.com/eclipse/in/@2654186>

<https://www.almanac.com/full-moon-may>

STARS IN YOUR EYES



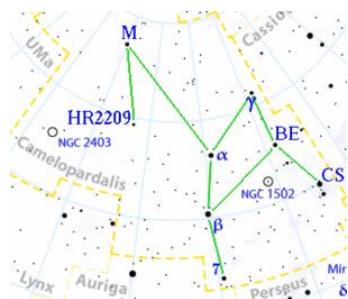
The sky map is for an observer standing looking to the north at around 10pm. There are two bright, unmistakable constellations in our northern sky all year round: Ursa Major and Cassiopeia. They are “circumpolar” constellations and never set below the horizon. At this time of year the best known constellation, Ursa Major (the “Great Bear”), is almost directly overhead in the late evening, while the distinctive “W” of Cassiopeia is just above the northern horizon.

Like many of our recent featured constellations, this month's choice is a less well known one and fairly faint – **CAMELOPARDALIS**. However, it should be on every stargazer's checklist.

Camelopardalis is located in an area of sky between Ursa Major and Cassiopeia that on first sight seems to be almost devoid of stars. But let your eyes get adjusted to the dark and gaze into the sky just above the “W” of Cassiopeia. Here you will make out the relatively faint stars of the constellation Camelopardalis.

Its name comes from the Latin derivation of the Greek word for “giraffe.” Taken apart, the word camelopardalis means camel (Greek *kamēlos*) and leopard (Greek *pardalis*). The giraffe was called the “camel-leopard” because it had a long neck like a camel and a body with spots, like a leopard. Unlike many other constellations, Camelopardalis has no ancient mythology associated with it and is a fairly recent construction. The constellation was created by the Dutch astronomer Petrus Plancius and documented by the German astronomer Jakob Bartsch in 1624.

The Giraffe constellation is pretty faint, with no stars brighter than fourth magnitude, so you will need good, dark-sky conditions. The Greeks did not record any stars here and thought this region of the sky, as well as what is now the constellation Lynx, was empty. While the giraffe is not a reference to mythology, the constellation's name could be a reference to the book of Genesis in the Bible, but this remains doubtful. When Jacob Bartsch included Camelopardalis on his star map of 1624, he described the constellation as a camel on which Rebecca rode into Canaan, where she was to marry Isaac. Since Camelopardalis represents a giraffe and not a camel, this explanation does not seem likely.



The two brightest stars are β -Camelopardalis and CS-Camelopardalis, at magnitudes 4.03 and 4.2, respectively. The graphic visualisation of the constellation as a giraffe is achieved as follows:

The giraffe's body consists of the quadrangle of stars α Cam, β Cam, BE Cam, and γ Cam. The stars HD 42818 (HR 2209) and M Cam form the head of the giraffe, and the stars M Cam and α Cam form the giraffe's long neck. Stars β Cam and γ Cam form the giraffe's front leg, and variable stars BE Cam and CS Cam form the giraffe's hind leg.



<https://www.constellation-guide.com/constellation-list/camelopardalis-constellation/>

THE PLANETS THIS MONTH

MERCURY: Lost in daylight throughout the month.

VENUS: Moving closer to the Sun and will quickly become lost in the morning twilight.

MARS: Visible before dawn in the east – around magnitude 0.8.

JUPITER: Also visible before dawn in the east, somewhat brighter than Mars at magnitude -2.1.

SATURN: Visible before dawn more to the south east than Mars or Jupiter – about as bright as Mars.

There are two notable opportunities for planet watchers this month: on 1st May at 05:00 (BST) Venus and Jupiter will rise in the east very close together. In line to the south east will be Mars and Saturn, making a **4-planet alignment**. Then, at the end of the month on the 29th, at 03:30 (BST) **Jupiter and Mars** will appear almost as one in the east – the separation will be less than 1 degree. If you are lucky and have a clear horizon, you may also glimpse the bright **Venus** further to the north east.



METEORS THIS MONTH

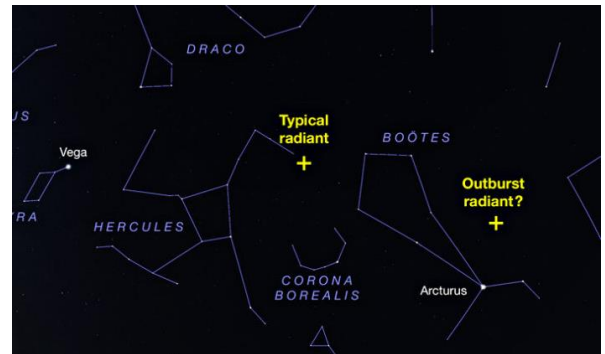
There is no prominent shower in May, but meteor-watchers are advised to keep a lookout as there may be something rather special at the end of the month – the **TAU HERCULIDS**.

The Tau Herculids is a relatively minor meteor shower occurring from May 19 - June 19. The discovery of the Tau Herculids shower followed the discovery of its parent comet. It was in 1930 when, during a minor planet survey, photographic plates exposed by Schassmann and Wachmann revealed a new comet (**comet 73P/Schwassmann-Wachmann 3**). Meteors belonging to the Tau Herculids were observed a short time later after an astronomer at the Kwassan Observatory in Kyoto calculated a preliminary orbit from which a colleague predicted a meteor shower.

In 1995 the comet broke up but has left fragments following its orbital path. On May 30-31 this year the Earth is expected to pass through a particularly dense stream of icy particles which the comet left behind, with the possibility of a grand display of meteors! The predictions are uncertain, however, because no one knows for sure how fast the concentrated dust swarm left by 73P's disintegrating nucleus is going to be. Meteor specialists do agree that whatever occurs will take place around 05.00 on May 31st.

The comet was originally seen in the vicinity of the constellation **Hercules**, hence the meteors' name. However, the radiant point of the comet's meteors has moved to a point between Hercules and the constellation **Boötes** which, at midnight on the 30th, will be riding high in the sky looking south, easily identified by the bright star **Arcturus**. It is thought that the radiant point of this year's "outburst" will be a little further to the west of Boötes.

[EarthSky | Tau Herculid meteors in May might be intense!](#)



NOCTILUCENT CLOUDS

May is the time when the summer season of noctilucent clouds begins. They are extremely rare very high clouds seen in the night sky looking north, usually on clear, summer nights. They become visible about the same time as the brightest stars and are usually bluish or silvery, but may also appear red or green.

Their name derives from Latin and means "*night shining*".

The clouds form from accumulations of small ice crystals and some dust particles at altitudes above 200,000ft, which is much higher than normal

clouds. They are somewhat similar to the more common cirrus clouds, except cirrus formations are visible during daytime and exist at much lower altitudes – between 13,000 and 60,000ft. Like many clouds, noctilucent clouds need water vapour, dust, and very low temperatures to form. Low temperatures are easily attainable above 200,000ft in a region known as the Mesosphere, but water vapour and dust are in short supply. The dust may well come from tiny meteors from space, although dust from volcanoes or man-made pollutants may add to these. Scientists believe that the moisture comes through gaps in the tropopause, or perhaps forms from the chemical reaction of methane and other chemicals in the upper atmosphere, promoted by UV radiations from the Sun.

Noctilucent clouds are so called because they only become visible after sunset when, due to their extreme altitude, they continue to be illuminated by the Sun even though it has set below the horizon. Normal, lower clouds will be invisible in the Earth's shadow. They are only seen at latitudes between 45° N and 80° N in the Northern Hemisphere, and equivalent latitudes in the Southern Hemisphere.

<https://www.metoffice.gov.uk/weather/learn-about/weather/types-of-weather/clouds/other-clouds/noctilucent>

