

Walsall Astronomical Society



June 2025

What's Up Monthly Publication



What's on this month



June brings with it the shortest nights of the year with the Summer Solstice occurring on the 21st of this month, we will gradually see the dark return to the nights! One to keep an eye on is the star T Corona Borealis, which is a recurrent nova that happens every 80 years, it could happen any day!

Don't forget to send us any images you have taken or post them on the Facebook Group!

Thursday 5th June: External Lecture - Dr Steve Barret - The ABC of Galaxy Evolution

Thursday 12th June: General Club Meeting, for discussion and support - Observing with telescopes if clear

Thursday 19th June: General Club Meeting, for discussion and support - Observing with telescopes if clear

Thursday 26th June: What's Up presentation on what to look out for in June

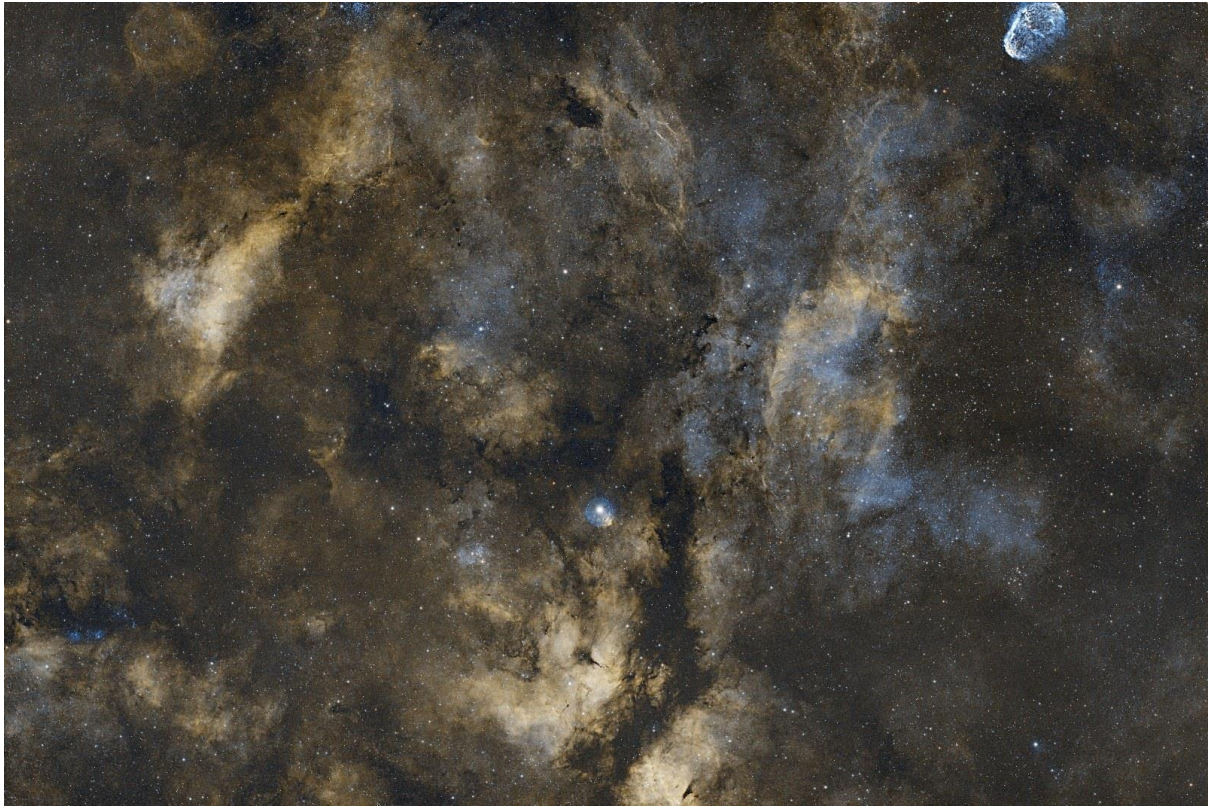
List of Lovell Lecture Series 2025 [HERE](#)¹ for those interested.

Members Gallery

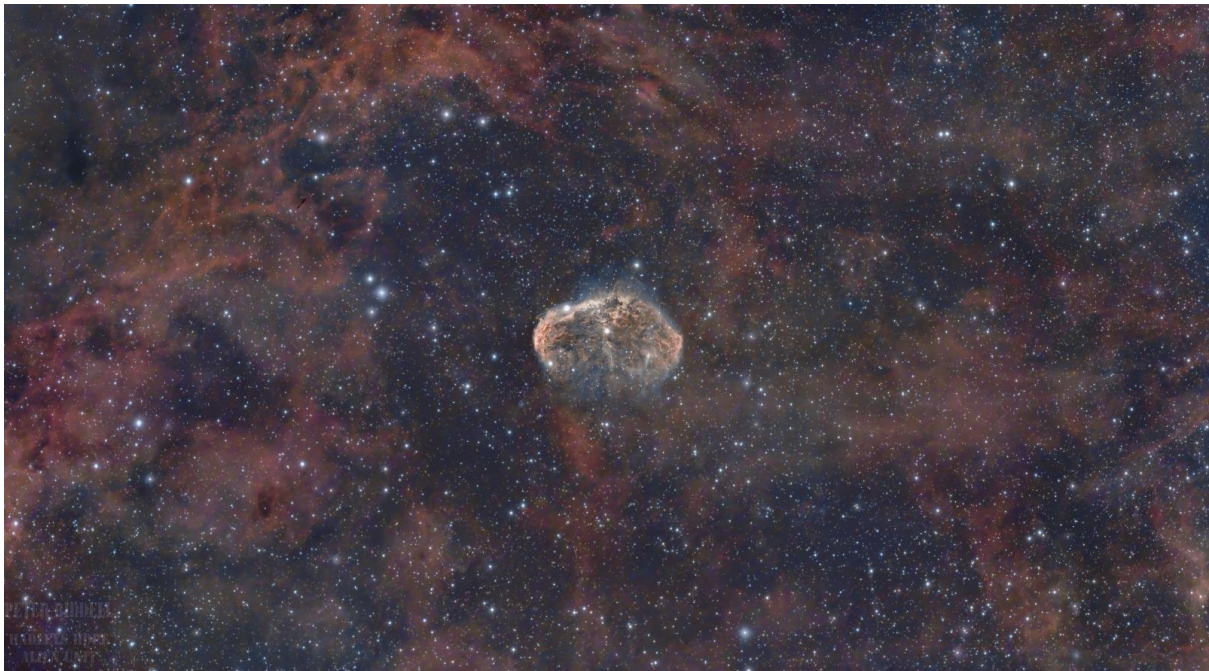


¹https://www.jodrellbank.net/events/lovell-lecture-series/?utm_source=email&utm_medium=eshot&utm_campaign=Lovell_Lecture&utm_content=Asteroid_The_me&dm_i=1DU9,8UZMY,AMCEUN,10W9TB,1

This section is to display some of the images that our own club members have taken during the previous month. Please feel free to submit any images via email, or post on the Facebook Group **Here**²



1 - Sadr Region - Keith Thompson



2 - Crescent Nebula (NGC 6888) - Peter Biddell

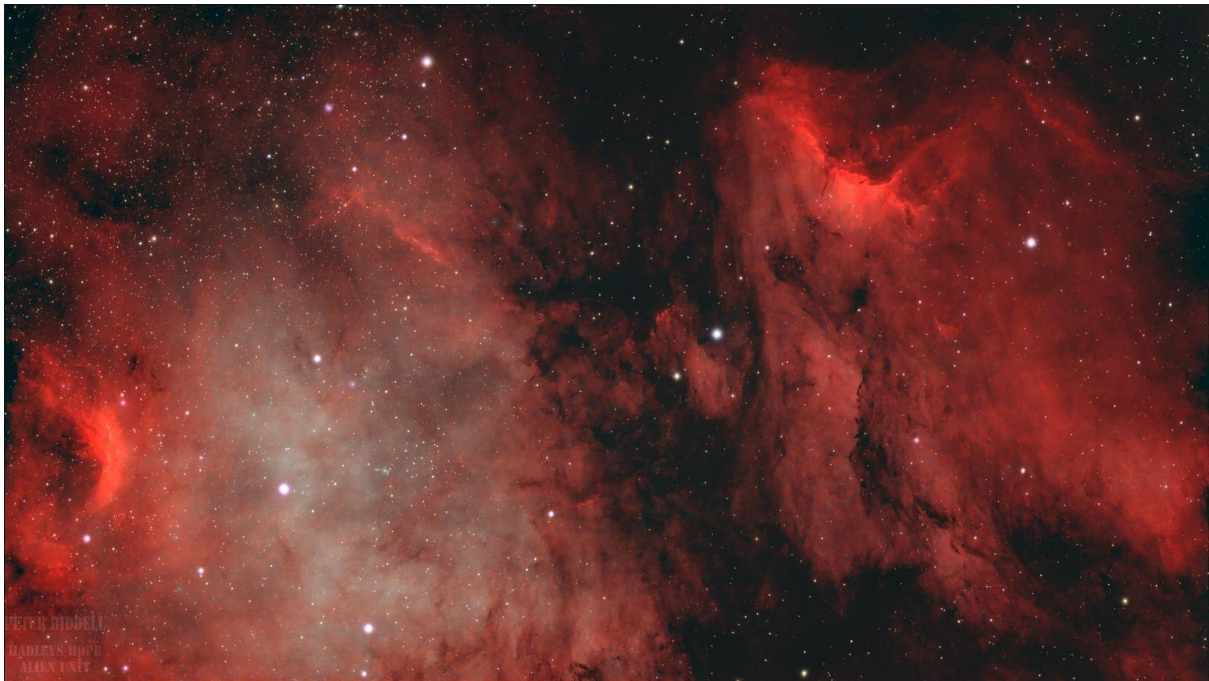
²<https://www.facebook.com/groups/251803274136388>



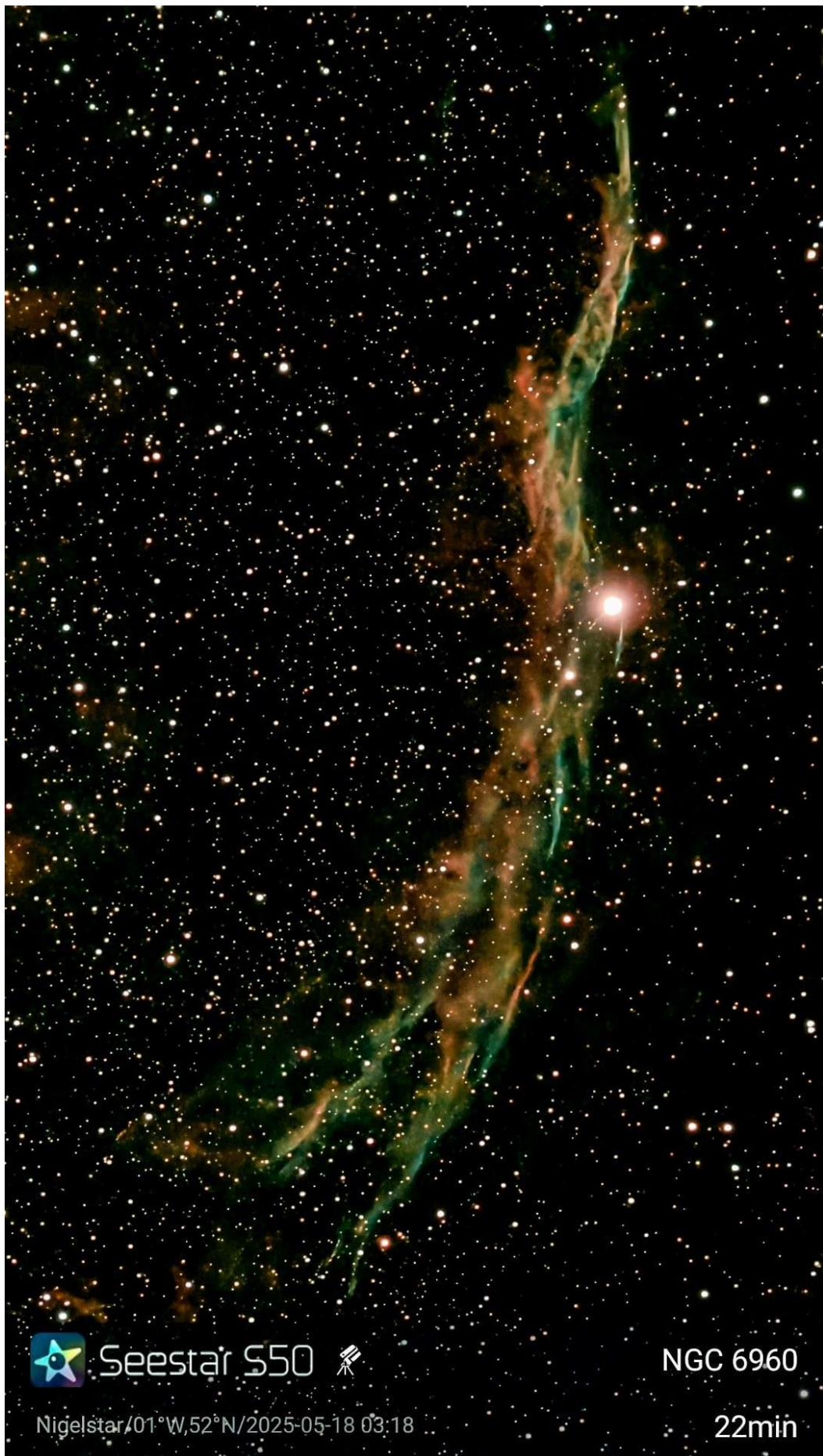
3 - Moon (Clavius Crater on the terminator) - Mike Lewis



4 - Moon - Bill Law



5 - Pelican Nebula (IC 5070) - Peter Biddell



Seestar S50



NGC 6960

Nigelstar/01°W,52°N/2025-05-18 03:18

22min

6 - Western Veil Nebula (NGC 6960) - Tony Jakeman



Seestar S50



NGC 6992

Nigelstar/01°W,52°N/2025-05-18 03:48

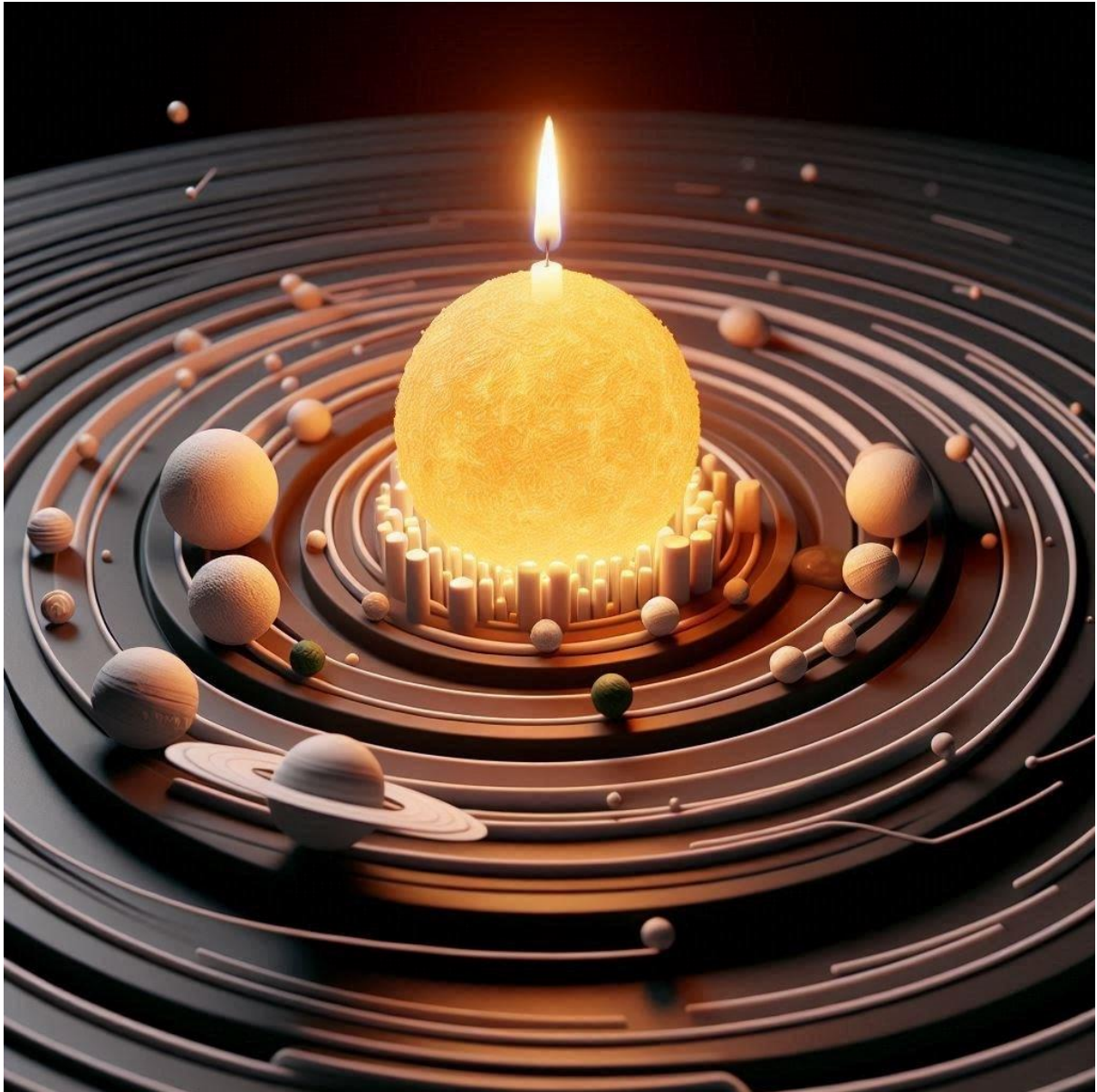
22min

7 - Eastern Veil Nebula (NGC 6992) - Tony Jakeman



8 - Iris Nebula (NGC 7023) - Paul Wickett

Anniversaries - June



Here are some significant astronomy anniversaries that occurred in June throughout history:

- **June 3, 1769 – Transit of Venus:** Observed by Captain James Cook's voyage to Tahiti.
- **June 10, 2003 – Launch of Spirit Rover to Mars:** NASA's Spirit rover launched as part of the Mars Exploration Rover mission. It landed on Mars in January 2004 and exceeded its planned 90-day mission by several years.
- **June 13, 1983 - Pioneer 10 crosses orbit of Neptune:** The Pioneer 10 probe crosses the orbit of Neptune

- **June 14, 1963 – First mammal in space:** Albert II, a rhesus monkey, was launched into space by the United States onboard a V-2 rocket.
- **June 20, 1978 – Venus Pioneer 1 launched:** The Venus Pioneer probe was a mission to orbit Venus and monitor and analyse its atmosphere.
- **June 16, 1963 – Valentina Tereshkova becomes the first woman in space:** Aboard Vostok 6, the Soviet cosmonaut made history, orbiting the Earth 48 times over nearly three days.
- **June 22, 1675 – Royal Observatory Greenwich founded:** King Charles II established the Royal Observatory, with John Flamsteed as the first Astronomer Royal.
- **June 24, 1975 – Moon tremor caused by Taurid meteors:** The Lunar Seismic Network, left on the Moon by Apollo astronauts, detected a significant series of lunar impacts from Taurid meteors.
- **June 30, 1908 – Tunguska Event:** A massive explosion in Siberia believed to be caused by the airburst of a meteoroid or comet fragment. It's the largest impact event in recorded history.

These anniversaries highlight key discoveries, milestones, and events that shaped the field of astronomy and space exploration.

The Moon

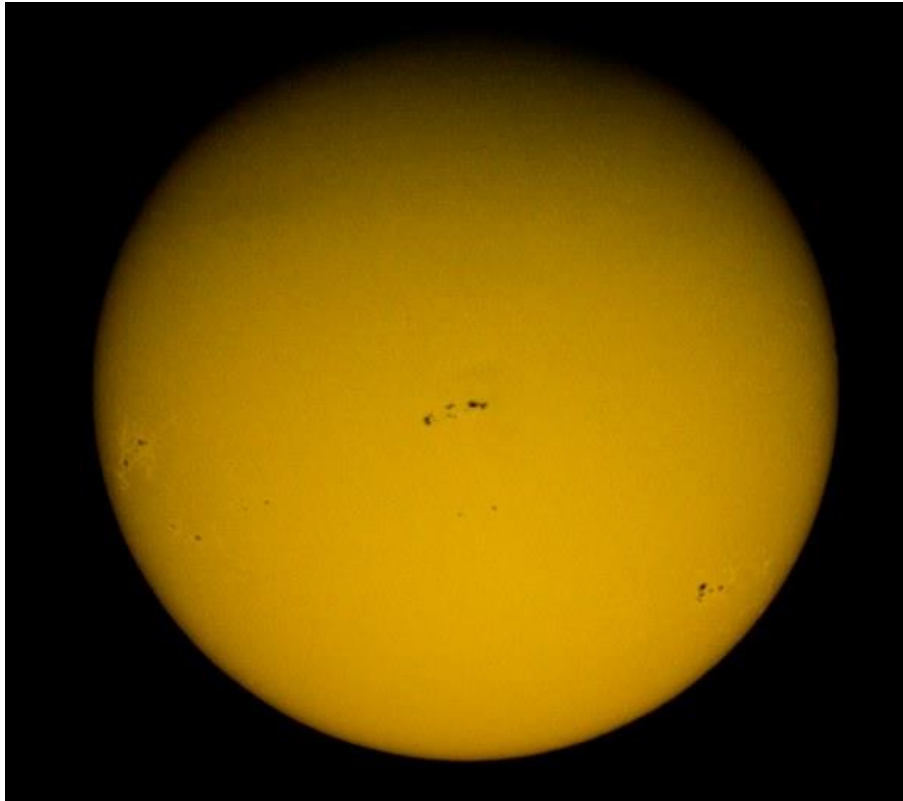


New Moon		27th May
1st Quarter		3rd June
Full Moon		11th June
Last Quarter		18th June
New Moon		25th June

Full Moon Phase Calendar details (Here³)

³<https://www.moongiant.com/calendar/june/2025/>

The Sun



Aurora - The Sun has now passed Solar maximum, however still has a large number of sunspots and prominences visible. This also means Aurora are still possible to occur.

Aurora Watch UK is a great phone app, that can alert you when the auroral activity is increasing,

Always use the correct solar filters when viewing the Sun, if you have any doubt please contact us or talk to one of the club committee members.

The Planets



Here's a summary of the positions and visibility of the planets in June 2025 as seen from the UK:

Mercury

Mercury will be visible low on the North-West horizon after sunset from the middle of the month.

Venus

Venus is visible as a morning object this month, rising in the East around 4am.

Mars

Mars appears reddish and is prominent in the sky this month. Appearing close to Regulus on the 17th.

Jupiter

Jupiter will not be visible this month, due to it being too close to the Sun.

Saturn

Visible as a morning object this month, rising around 1am in Aquarius. It will be near the Moon on the 27th.

Uranus

Uranus will not be visible this month, due to it being too close to the Sun

Neptune

Neptune will not be visible this month, due to it being too close to the Sun

Comets, Meteors & Asteroids



Meteor Showers

Tau Herculid Shower - Originating from debris from the 73P/Schwassmann-Wachmann comet. This display could be very active dependant on the amount of debris. Due to peak on the 31st May-1st June, with viewing best in the early hours, this should not be affected too much by the moon brightness either.

Sporadic meteors are also visible at any time, usually best seen after midnight from dark sky locations.

Asteroids

No bright asteroids are forecast this month

Comets

No bright comets are forecast this month

For optimal viewing, observers should focus on times when the Moon is not interfering and look in areas with minimal light pollution. Binoculars or telescopes are recommended for a better view of the comet's tail and coma, as naked-eye visibility might still be challenging depending on the comet's final brightness

Deep Sky Targets



For Telescopes

In June 2025, the UK night skies will start becoming brighter for longer, meaning dark sky targets will not be visible until much later in the evening, and will disappear earlier as the

sun rises. Galaxies will be harder to image due to the brighter night, however bright Nebula's are ideal due to the need for specialised filters cutting out visible light.

- **North**

- The Heart Nebula (IC 1805) - A large, bright emission nebula in the constellation, Cassiopeia.
- The Soul Nebula (IC 1848) - A large, bright emission nebula in the constellation, Cassiopeia.
- Bodes Galaxy (M81): A bright spiral galaxy in close proximity to M82.
- Cigar Galaxy (M82): A spiral galaxy, with a massive emission of gas and dust caused by newly forming stars.

- **East**

- Cygnus Loop - Made up of the Eastern Veil (NGC 6992) and the Western Veil (NGC 6960) - It is a supernova remnant made up of ionised gas and dust.
- Sadr Region or Gamma Cygni Nebula (IC 1318) - A large diffuse emission nebula surrounding the star, Sadr, at the center of the Cygnus cross. Nebula's included in this region include, The Crescent Nebula (NGC 6888).
- North America Nebula (NGC 7000) - A bright emission nebula, located in Cygnus, near the star Deneb.
- Ring Nebula (M57): A planetary nebula, which is the remains of a sun-like star.

- **South**

- Eagle Nebula (M16) - A star forming region in the constellation of Serpens. Well-known for containing the 'Pillars of Creation'.
- Lagoon Nebula (M8) - A large star forming area in Sagittarius, made up of clouds of gas and dust.
- Hercules Cluster (M13): A globular cluster made up of over 100,000 stars.

- **West**

- Leo Triplet (M65, M66 and NGC3628): A group of interacting spiral galaxies, which should be visible through a moderate telescope.

- Whirlpool Galaxy (M51): A great example of a 'grand design' spiral galaxy, with symmetrical arms laced with stars, gas and dust.
- Markarian's Chain (M84, M86 and more) - A group of galaxies that when viewed appear in a curved line.
- M3 Globular Cluster : A cluster made up of around 500,00 stars.

These objects span various types, from galaxies to nebulae and star clusters, providing excellent opportunities for stargazing and astrophotography. Use a star map or astronomy app to locate them easily.

For Binoculars

With 7x50 wide angle binoculars sweep the milky-Way from Cassiopeia through Perseus and Auriga to Procyon. Enjoy the Hyades and Pleiades at the same time.

Bright Star Clusters

1. **Coma Berenices cluster** – An open cluster, which a nice double star that appears orange and blue.

Nebulae and Galaxies

1. **Whirlpool Galaxy (M51)** - A spiral galaxy that will appear as a faint fuzzy patch

Globular Clusters

1. **Hercules Globular Cluster (M13)** – A dense, bright star cluster visible in summer.
2. **M5** – located in Serpens

Planets and the Moon

1. **Saturn** – Appearing as a bright object in the early hours, but will be close to the Moon on the 27th.
2. **The Moon** – Ideal for exploring craters, mare, and mountains at any phase.

Switching to the Caldwell catalogue:

C13 The Owl Cluster in Cassiopeia is not difficult for binoculars or small telescopes. (Draw a line from epsilon CAS through delta for about half the distance to find chi CAS which is in the middle of this open cluster also known as NGC457).

C14 We all know as NGC 869 & 884 the double cluster or sword handle in Perseus.

Bills Bulletin



Hi guys

find below this months articles. Hope you enjoy 😊

Sun

Raindrops in the corona

<https://apple.news/AwxtrXlcUSRaKm54YJrYwJA>

Muse

NASA's MUSE Mission Passes Critical Design Review - NASA Science⁴

Earth

How India designed shoestring space flight

How India rewrote the rules of space travel when it launched its first satellite⁵

Proba 3 formation flight

ESA - Proba-3 achieves precise formation flying⁶

Stellar occultation can allow us to classify satellites

Astronomers Can Classify Satellites By Watching How They Block Stars - Universe Today⁷

NASA wants you to help with study of Noctilucent clouds

<https://apple.news/AyNCIm1BgRIKEMUYCoRKGSA>

⁴https://science.nasa.gov/blogs/muse/2025/05/22/nasas-muse-mission-passes-critical-design-review/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202519

⁵https://www.nature.com/articles/d41586-025-01235-4?utm_source=Live+Audience&utm_campaign=bd249dd345-nature-briefing-daily-20250502&utm_medium=email&utm_term=0_b27a691814-bd249dd345-49516740

⁶https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Proba-3_achieves_precise_formation_flying

⁷<https://www.universetoday.com/articles/astronomers-can-classify-satellites-by-watching-how-they-block-stars>

Moon

Earth has a moon and occasional mini moons which are transient to us. Where do they come from. This article sheds light on the subject

[2504.17985] The steady state population of Earth's minimoons of lunar provenance⁸

Robot dogs to explore the moon

Walking Moon Robots Possibly More Reliable than Lunar Rovers - Universe Today⁹

Lunar bright spots

"Cassini's Bright Spot" Beams at Full Moon - Sky & Telescope¹⁰

Flexible moon

<https://apple.news/A29vmFByvQ9CwJM0gZK2y9A>

<https://phys.org/news/2025-05-twin-spacecraft-mission-reveals-hot.html>

Planetary

The new horizons probe have been looking at the lyman alpha emission of-the solar system and has found no hydrogen wall

⁸<https://arxiv.org/abs/2504.17985>

⁹<https://www.universetoday.com/articles/walking-moon-robots-possibly-more-reliable-than-lunar-rovers>

¹⁰https://skyandtelescope.org/astronomy-news/cassinis-bright-spot-beams-at-full-moon/?utm_source=cc&utm_medium=newsletter

https://apple.news/ACHP_deX_TG2JPPUpBAKRbA

Dragonfly the titan quadrocopter drone has been approved

NASA gives OK to build drone that will fly on Saturn's moon Titan¹¹

Mars green sky

<https://apple.news/A10kJpbTGSVqVXDA-ceT5fQ>

For a longer read

Full article

<https://www.science.org/doi/10.1126/sciadv.ads1563>

Machine learning can look at details on Mars we cannot see and is classifying geological types. Find out how in this short paper

<https://www.hou.usra.edu/meetings/lpsc2025/pdf/2064.pdf>

Was Jupiter once bigger?

<https://apple.news/AxyErPBRue9GXlCH7HsGA>

Watching methane clouds on titan

Methane Clouds in Motion on Saturn's Moon Titan - Sky & Telescope¹²

¹¹https://www.astronomy.com/space-exploration/nasa-gives-ok-to-build-drone-that-will-fly-on-saturns-moon-titan/?oly_enc_id=1572E7199645H3F

There may not have been fluid flow in Martian craters

Planetary Scientists Confirm There's No Flowing Water on Mars - Universe Today¹³

How Mars lost its atmosphere

NASA's MAVEN Makes First Observation of Atmospheric Sputtering at Mars - NASA Science¹⁴

Asteroids

Vesta may have formed by accretion or impact a new paper looks at both scenarios using data from the dawn probe

A small core in Vesta inferred from Dawn's observations | Nature Astronomy¹⁵

Iron based asteroids potentially derived from an iron core from a larger planet which broke up

Metal Shards Shed Light on the Origin of Asteroid Kalliope - Sky & Telescope¹⁶

¹²https://skyandtelescope.org/astronomy-news/methane-clouds-in-motion-on-saturns-moon-titan/?utm_source=cc&utm_medium=newsletter

¹³<https://www.universetoday.com/articles/planetary-scientists-confirm-theres-no-flowing-water-on-mars>

¹⁴https://science.nasa.gov/missions/maven/nasas-maven-makes-first-observation-of-atmospheric-sputtering-at-mars/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202520

¹⁵<https://www.nature.com/articles/s41550-025-02533-7>

¹⁶https://skyandtelescope.org/astronomy-news/metal-shards-shed-light-on-the-origin-of-asteroid-kalliope/?utm_source=cc&utm_medium=newsletter

Propulsion for cubesats

A CubeSat Propulsion System to Visit Near Earth Objects - Universe Today¹⁷

Off to an asteroid

First Chinese mission to sample an asteroid starts its journey¹⁸

Astro biology

Smell of space

From cat urine to gunpowder: Exploring the peculiar smells of outer space - BBC Future¹⁹

Milky Way

Small Magellanic Cloud is being pulled apart in opposite directions

The Small Magellanic Cloud is Being Pulled in Different Directions - Universe Today²⁰

Planets are forming in the molecular turbulence at the Center of our galaxy

¹⁷<https://www.universetoday.com/articles/a-cubesat-propulsion-system-to-visit-near-earth-objects>

¹⁸https://www.nature.com/articles/d41586-025-01672-1?utm_source=Live+Audience&utm_campaign=5498f5dfef-nature-briefing-daily-20250529&utm_medium=email&utm_term=0_b27a691814-5498f5dfef-49516740

¹⁹<https://www.bbc.co.uk/future/article/20250522-what-does-outer-space-smell-like>

²⁰<https://www.universetoday.com/articles/something-is-tearing-the-small-magellanic-cloud-apart>

There are Planets Forming in the Center of the Milky Way - Universe Today²¹

Four decades ago²², radio observations turned up mysterious magnetic threads in the center of the Milky Way, chaotic stitches that wend their way back and forth across the galactic plane. Astronomers have since proposed more than a few ideas to explain the filaments' origins, but consensus has remained out of reach

A Pulsar Broke a Magnetic Thread in the Milky Way - Sky & Telescope²³

More black holes at the galactic centre?

Stars on the Move: New Insights from the Galactic Center - AAS Nova²⁴

Chandra discovery

Eccentric 'Star' Defies Easy Explanation, NASA's Chandra Finds - NASA²⁵

Galaxies

A series of sonifications

NASA Telescopes Tune Into a Black Hole Prelude, Fugue - NASA²⁶

²¹<https://www.universetoday.com/articles/there-are-planets-forming-in-the-center-of-the-milky-way>

²²<https://www.nature.com/articles/310557a0>

²³https://skyandtelescope.org/astronomy-news/pulsar-punched-through-a-mysterious-magnetic-thread/?utm_source=cc&utm_medium=newsletter

²⁴<https://aasnova.org/2025/05/27/stars-on-the-move-new-insights-from-the-galactic-center/>

²⁵https://www.nasa.gov/image-article/eccentric-star-defies-easy-explanation-nasas-chandra-finds/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202520

Higher resolution models are now beginning to show how globular clusters could have formed. Dark matter causes clumps of matter where baryons cause super sonic winds causing seeds for the development of high metallicity massive stars and jets force them into clumps. If JWST can spot the clumps.....

From Gas to Cluster: Simulating Star Formation in the Early Universe - AAS Nova²⁷

M82 is a well observed galaxy which is very active having star forming rates 30 times that of Milky Way. 355 hours of deep gamma ray observation could shed light on where the active areas are as magnetic fields change the direction of motion of the particles once they have left the galaxy mss as kinging difficult to find the source

Messier 82 (Star)bursts onto the Scene! - AAS Nova²⁸

Little red dots the objects JWST found may not be what was first thought see below

[2505.09669] Chandra Rules Out Super-Eddington Accretion For Little Red Dots²⁹

A New Theory for Little Red Dots: Shredded Stars Feeding Growing Black Holes - AAS Nova³⁰

Earliest galaxy

Most Distant Galaxy Confirmed in New JWST Images - Sky & Telescope³¹

²⁶https://www.nasa.gov/missions/chandra/nasa-telescopes-tune-into-a-black-hole-prelude-fugue/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202518

²⁷<https://aasnova.org/2025/05/16/from-gas-to-cluster-simulating-star-formation-in-the-early-universe/>

²⁸<https://aasnova.org/2025/05/06/messier-82-starbursts-onto-the-scene/>

²⁹<https://arxiv.org/abs/2505.09669>

³⁰<https://aasnova.org/2025/05/21/a-new-theory-for-little-red-dots-shredded-stars-feeding-growing-black-holes/>

³¹https://skyandtelescope.org/astronomy-news/most-distant-galaxy-confirmed-in-new-jwst-images/?utm_source=cc&utm_medium=newsletter

Cosmology

String theory calculations can be used in real world when looking at black hole near misses other than mergers

<https://apple.news/AYLcnaqqpRLKfXiL4Mdl9vw>

Missing link pulsar within a brown dwarf slowly eating it from the inside out

Rare 'spider star' spotted consuming its companion³²

If we can find primordial black holes could we be locating today's dark matter ?

<https://phys.org/news/2025-05-primordial-black-holes-today-dark.html>

White holes

<https://apple.news/AuNIvaYxGTeuwwA7Ti6wuEw>

³²https://www.nature.com/articles/d41586-025-01633-8?utm_source=Live+Audience&utm_campaign=6267b05a55-nature-briefing-daily-20250527&utm_medium=email&utm_term=0_b27a691814-6267b05a55-49516740

Telescopes

Using FAST to look for south polar lunar water

https://apple.news/AeVwrrmw9QpmyR4S_Z4QLg

Review of celestron smart scope

The Celestron Origin is the smartscope we've been waiting for: Full review³³

Observing

Saturn's moon Titan will have a 5 month time slot of transits and shadow transits while we are in the rings edge on season

This article explains and there is a chart of timings. The later ones are better for the UK

Astro-Challenge: See Titan's Shadow Cross Saturn - Universe Today³⁴

The missing messier

The Twisted Path to Unconfounding "Double Star" Messier 40 - Sky & Telescope³⁵

Hubble challenge

³³https://www.astronomy.com/observing/appraising-the-origin-home-observatory/?oly_enc_id=1572E7199645H3F

³⁴<https://www.universetoday.com/articles/astro-challenge-see-titans-shadow-cross-saturn>

³⁵https://skyandtelescope.org/astronomy-news/the-twisted-path-to-unconfounding-m40/?utm_source=cc&utm_medium=newsletter

Schedules, links and contacts



- *TV - BBC Sky at night (Here³⁷)*
- *Upcoming Space Launches (Here³⁸)*

³⁶https://science.nasa.gov/mission/hubble/science/explore-the-night-sky/hubbles-night-sky-challenge/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202520

³⁷<https://www.bbc.co.uk/programmes/b006mk7h>

³⁸<https://spaceflightnow.com/launch-schedule/>

- *Moon Phases (Here³⁹)*
 - *Dark Sky Calendar (Here⁴⁰)*
 - *Clear Outside - Astronomy weather forecast (Here⁴¹)*
 - *Cloud radar map (Here⁴²)*
 - *Beginners guide (Here⁴³)*
 - *Walsall Astronomy Facebook Group (Here⁴⁴)*
 - *Walsall Astronomy Website (Here⁴⁵)*
 - *Contact: Info@walsallastro.com⁴⁶*
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³⁹<https://www.moongiant.com/calendar/november/2024/>

⁴⁰<https://gostargazing.co.uk/dark-sky-calendar/>

⁴¹<https://clearoutside.com/forecast/50.70/-3.52>

⁴²<https://www.yourweather.co.uk/weather-maps/nubes-ukn.html>

⁴³<https://www.skyatnightmagazine.com/advice/astronomy-for-beginners>

⁴⁴<https://www.facebook.com/groups/251803274136388>

⁴⁵<https://walsallastro.com/>

⁴⁶<mailto:Info@walsallastro.com>