

Walsall Astronomical Society



September 2025

What's Up Monthly Publication



What's on this month



As the new season dawns, autumn greets us with some of the year's best stargazing opportunities. With darkness settling in by nine, the skies offer an ideal blend of early nightfall and lingering warmth, perfect for comfortable observations. This month, the Pleiades beckon with their twinkling allure, while Orion begins to peek over the horizon. Plus,

Saturn reaches opposition, offering a stunning view. It's the perfect time to embrace the wonders of the night sky.

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

Thursday 4th September: External Lecture - Steve Tonkin - 10 Ways The Universe Can Kill You

Thursday 11th September: General Club Meeting, for discussion and support - Observing with telescopes if clear

Thursday 18th September: General Club Meeting, for discussion and support - Observing with telescopes if clear

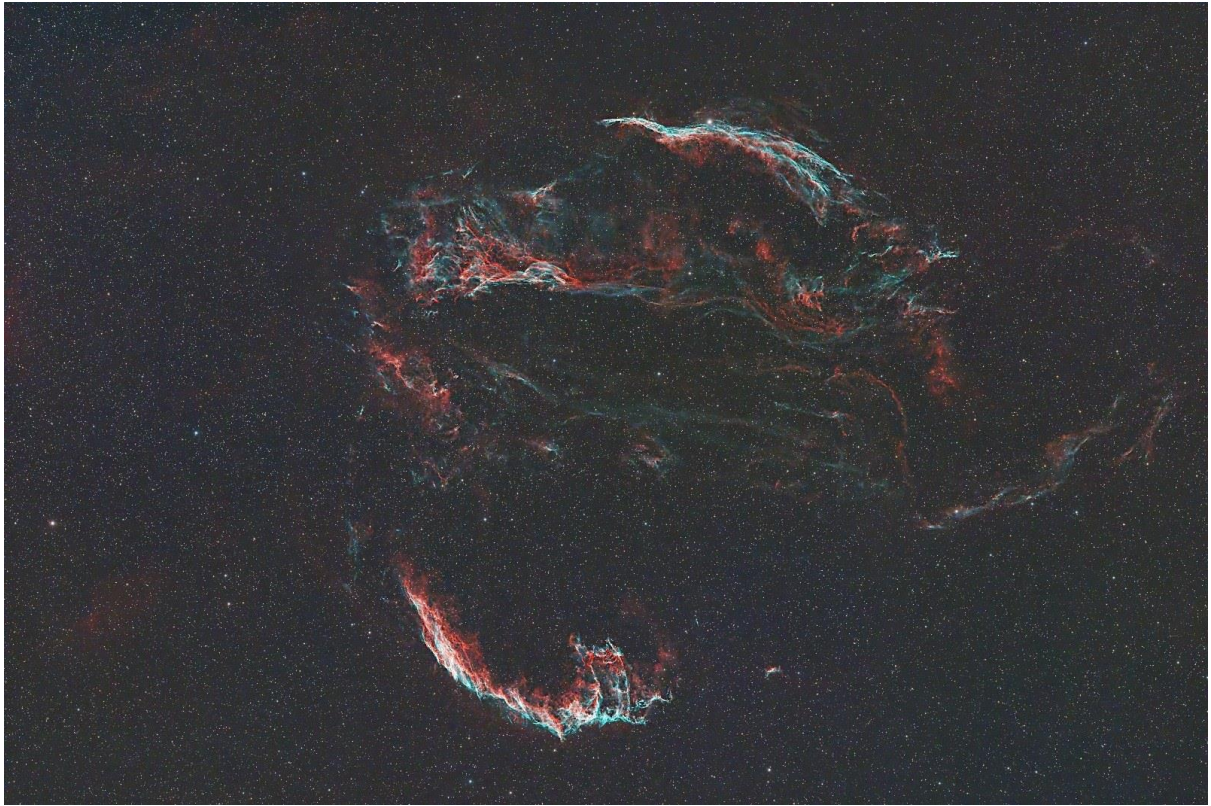
Thursday 25th September: What's Up for October

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

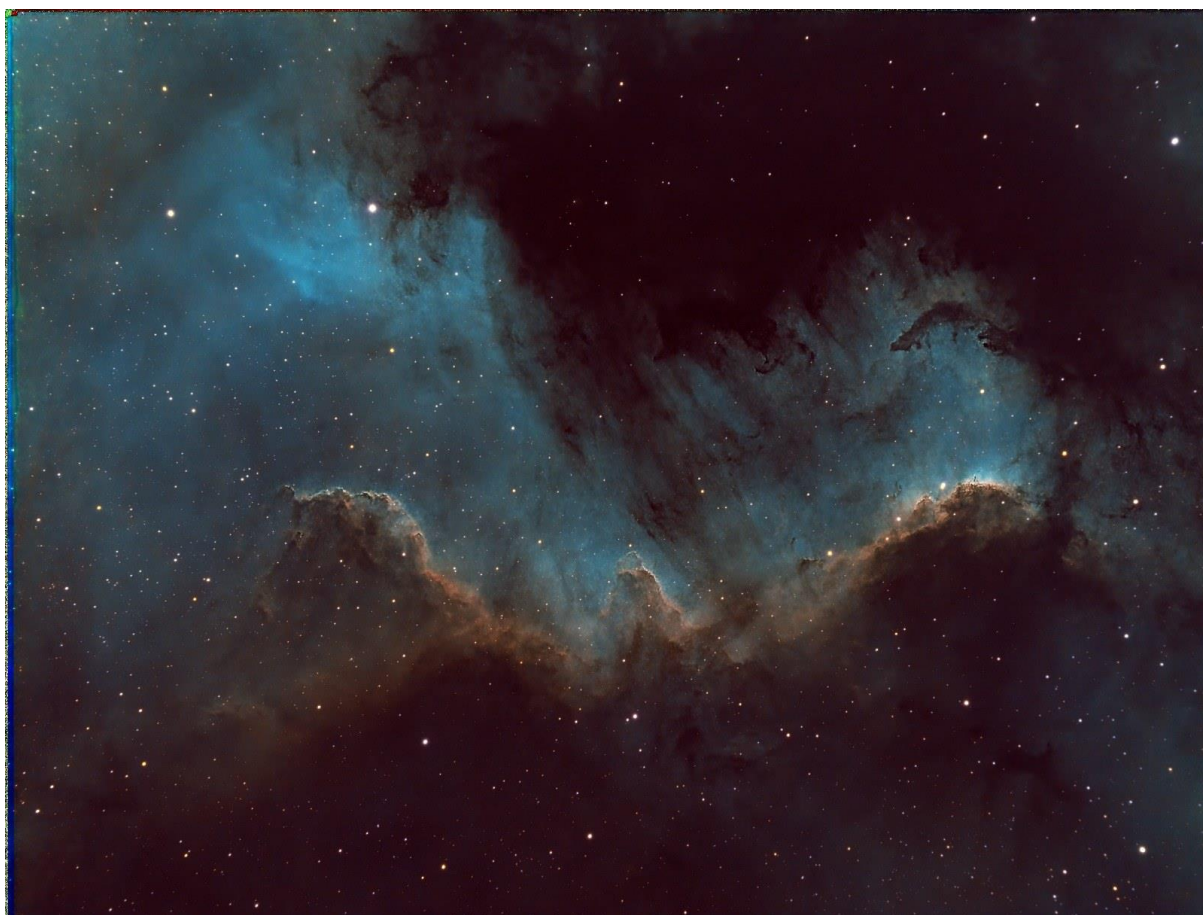
Members Gallery



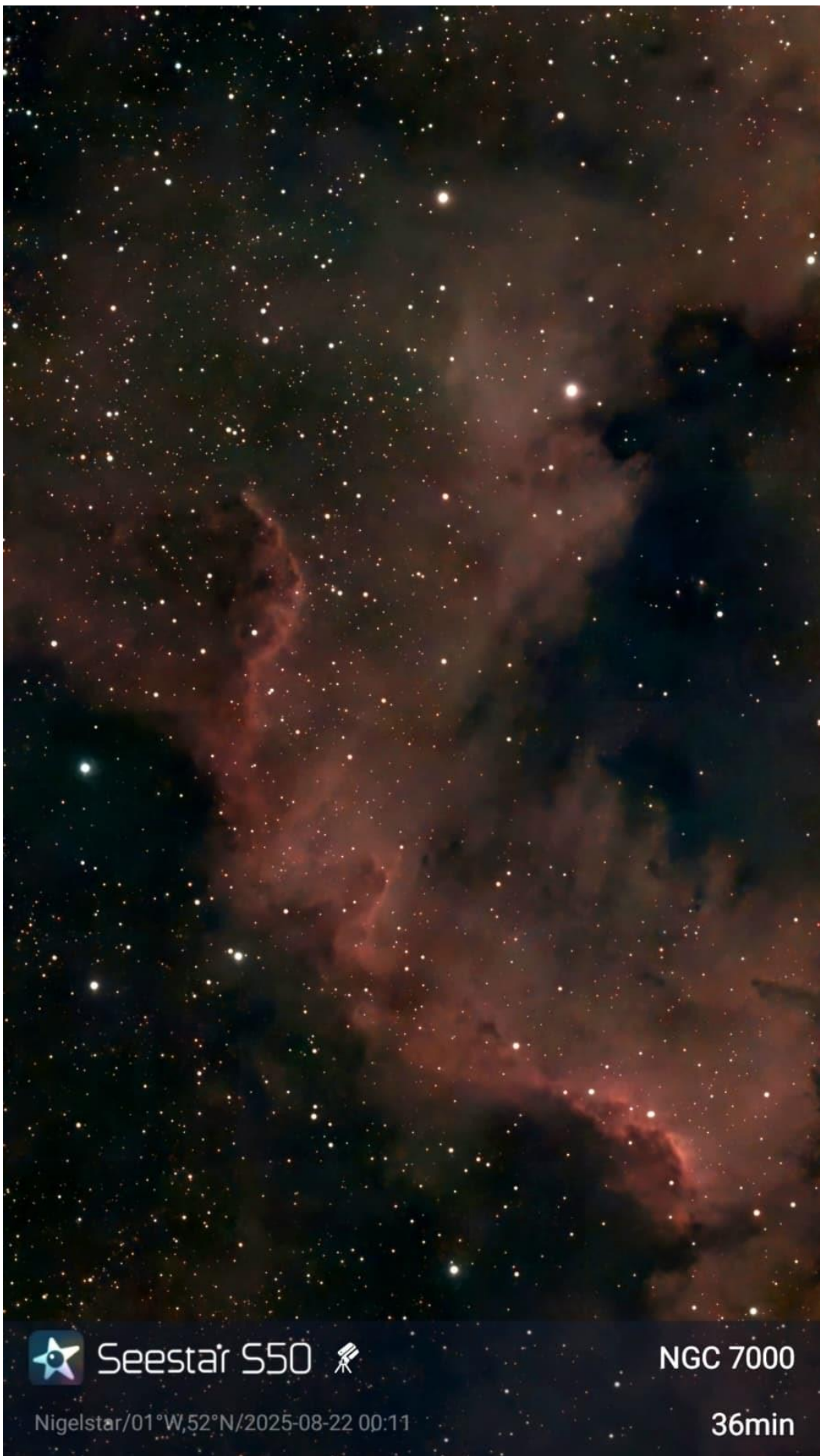
This section is to display some of the images that our own club members have taken during the previous month. Please feel free to submit any images via email, or post on the Facebook Group [Here](#)




1 - Cygnus Loop (Sh2-103) also including both Veil Nebula's - Keith Thompson



2 - Cygnus Wall of North America Nebula (NGC 7000) - Mike Lewis



Seestar S50 

NGC 7000

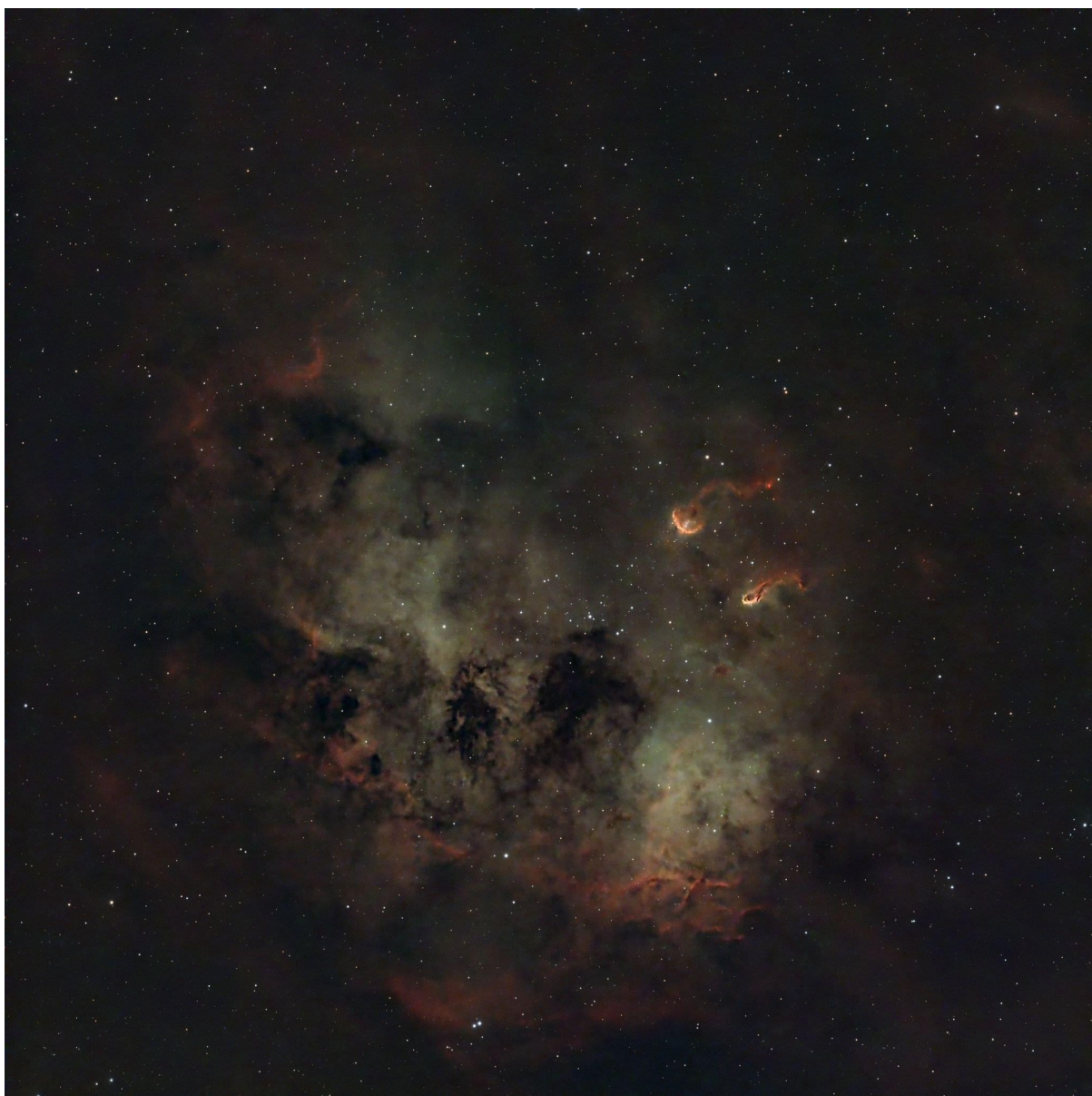
Nigelstar/01°W,52°N/2025-08-22 00:11

36min

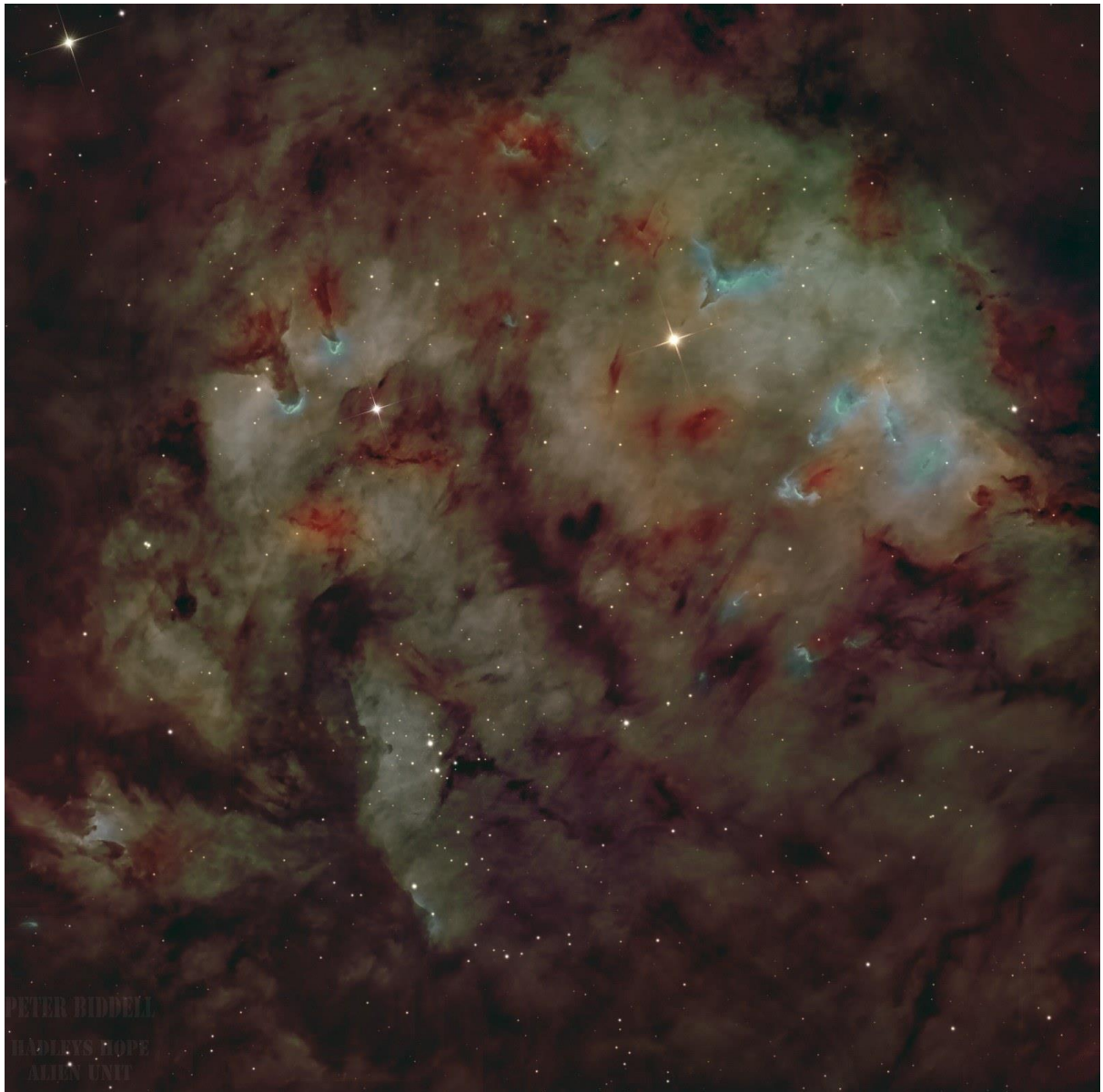
3 - Cygnus Wall of North America Nebula (NGC 7000) - Tony Jakeman



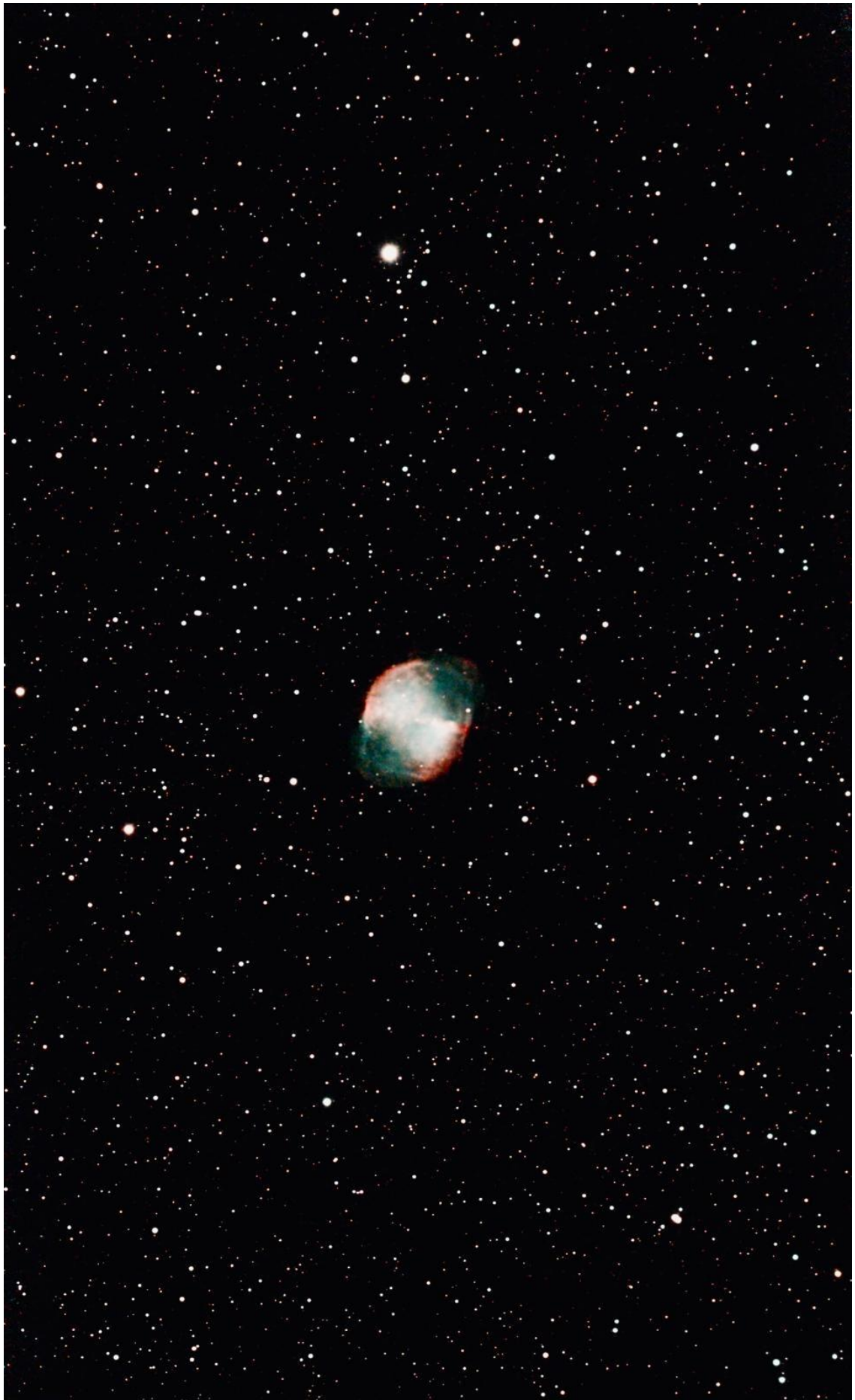
4 - Flying Bat Nebula (Sh2-129) - Keith Thompson



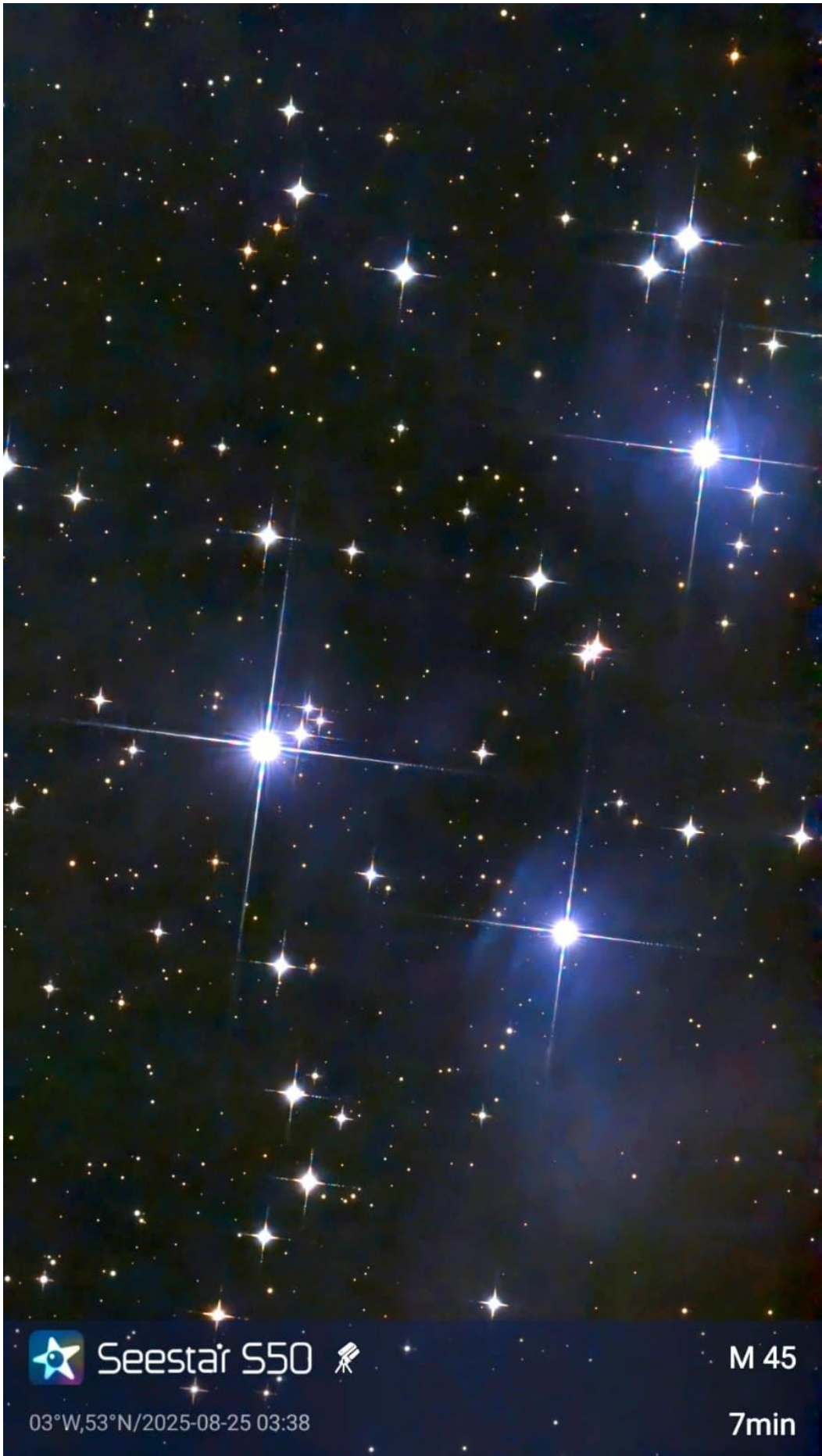
5 - Tadpole Nebula (IC 410) - Paul Wickett



6 - Teddy Bear Nebula (Sh2-171) - Pete Biddell



7 - Dumbell Nebula (M27) - Stu Selwood



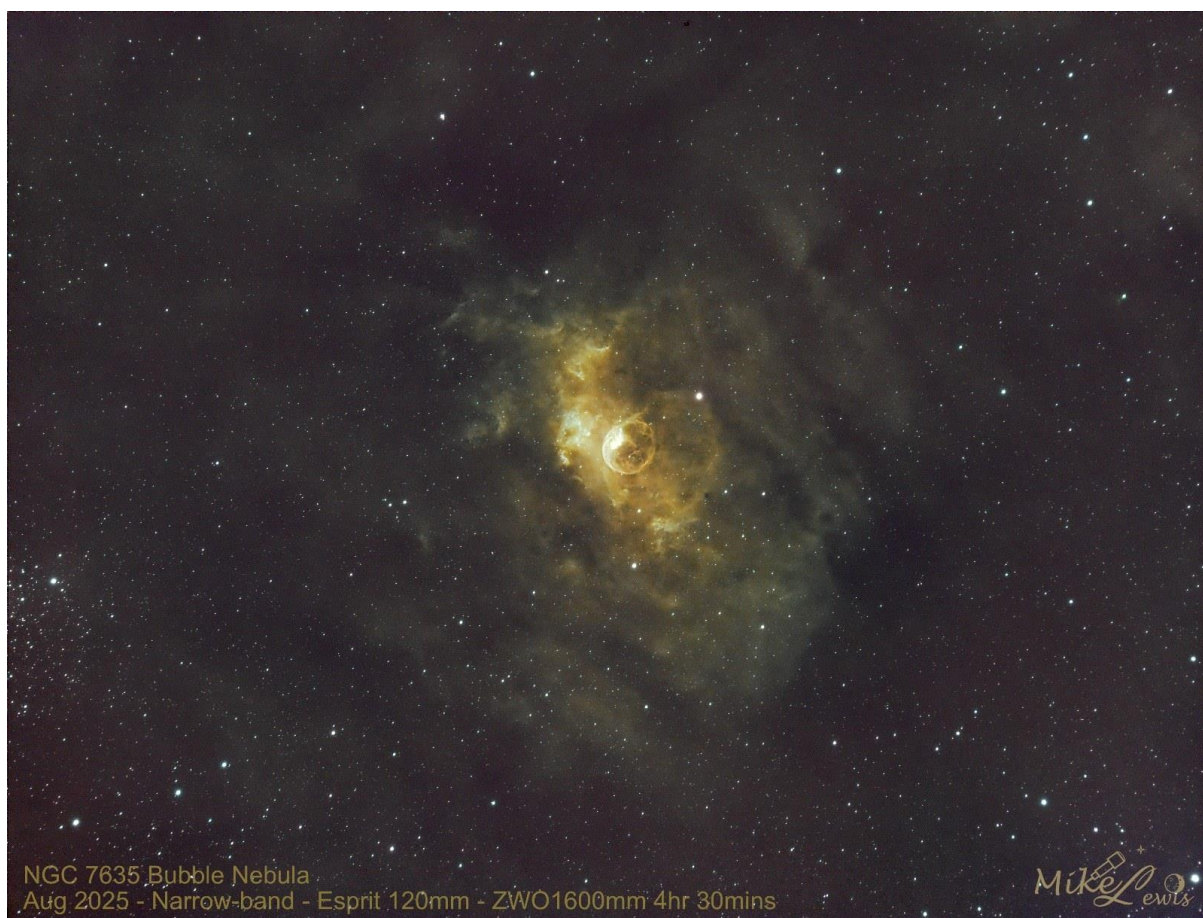
Seestar S50 

M 45

03°W,53°N/2025-08-25 03:38

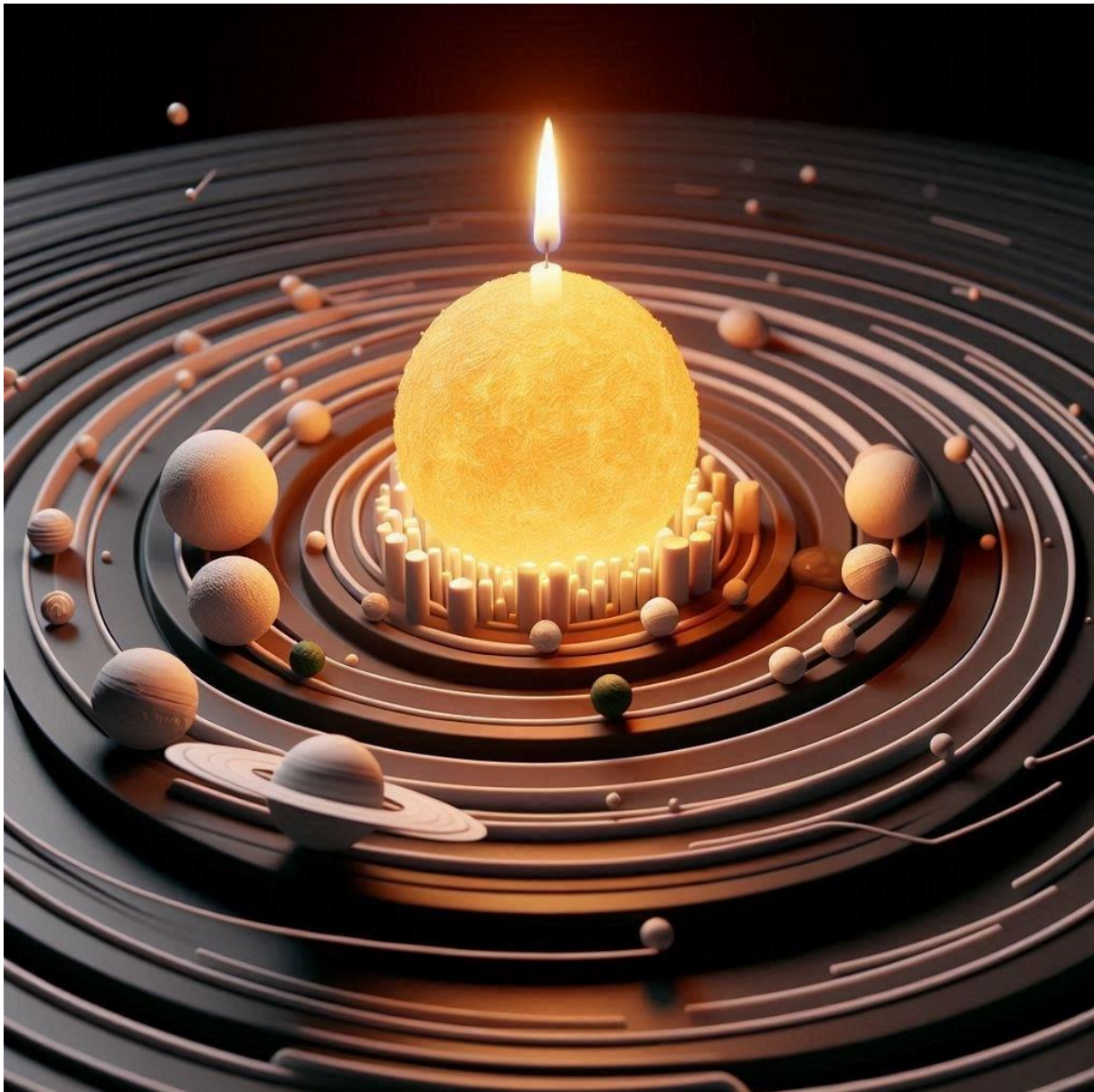
7min

8 - The Pleiades (M45) - Tony Jakeman



9 - Bubble Nebula (NGC 7635) - Mike Lewis

Anniversaries - June



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

- **September 1, 1859 – The Carrington Event:** The most powerful geomagnetic storm in recorded history caused by a CME. It created disruption with technology and aurora's visible as far as the Caribbean.
- **September 5, 1977 – Voyager 1 probe is launched:** The probe is the furthest any probe has travelled and still communicates with NASA today.
- **September 17, 1789 – Discovery of Saturn's moon Mimas:** William Herschel discovers Mimas using his '40-foot telescope'. A reflecting telescope with a 48 inch

primary mirror. The large impact crater on Mimas inspired the look of the Star Wars Death Star.

- **September 22, 2006 – Hinode satellite is launched:** The Japanese probe studies solar activity of the sun using a range of equipment including Extreme UV and X-ray telescopes.
- **September 23, 1846 – Neptune is officially discovered:** Johann Gottfried Galle discovered the planet. The discovery was a triumph of mathematical astronomy, as it was found based on the gravitational perturbations it caused on the orbit of Uranus originally predicted by Urbain Le Verrier.
- **September 30, 1880 – First photograph of a nebula:** Henry Draper is able to take a 51 minute exposure of the Orion Nebula (M42) using an 11-inch refracting telescope. A huge milestone in astrophotography

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

The Moon



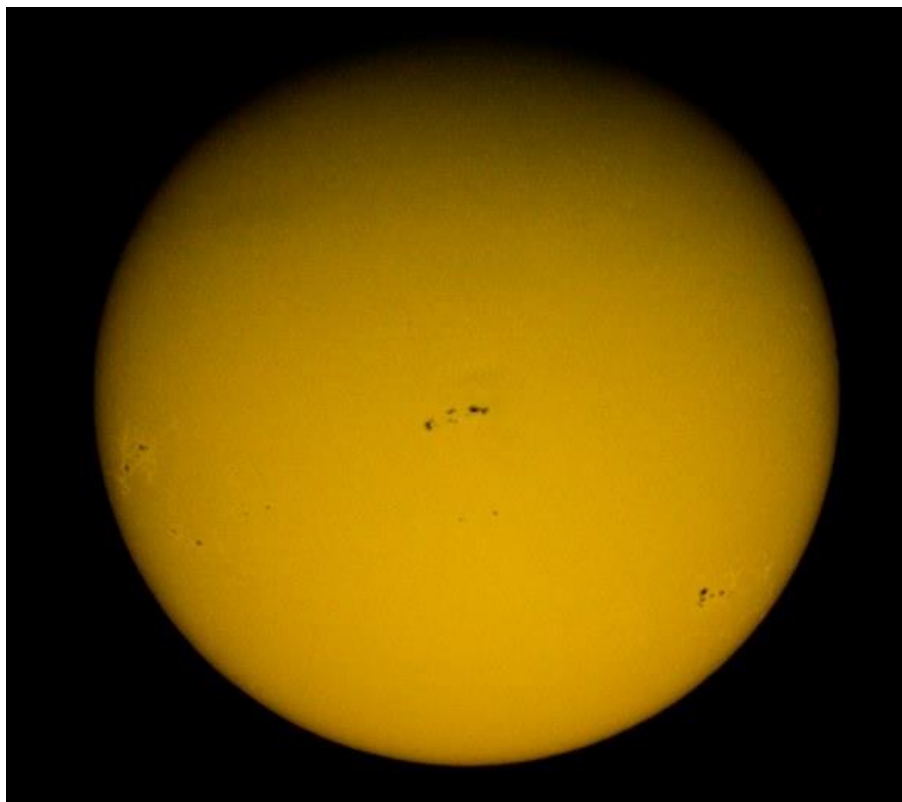
1st Quarter		31st August
Full Moon		7th September
Last Quarter		14th September
New Moon		21st September
1st Quarter		29th September

Full Moon Phase Calendar details ([Here](#))

Lunar Apogee (farthest from Earth) on the 5th at 226485 miles

Lunar Perigee (closest to Earth) on the 18th at 251379 miles

The Sun



Solar Activity Highlights for September 2025

1. **Solar Cycle Peak Continues** - September 2025 remains within the peak phase of Solar Cycle 25, which NOAA/NASA had forecast to peak around July 2025 (+- 8 months) with a smoothed sunspot number near 115

crondallweather.co.uk+2nasa.gov+2nypost.com+2ntrs.nasa.gov+11swpc.noaa.gov+11swpc.noaa.gov+11.

2. **Increased Sunspot Activity** Expect higher frequencies of sunspots and M-class to occasional X-class flares en.wikipedia.org+2nasa.gov+2weather.gov+2.

What to Watch For

- 🌙 **Sunspots:** High-resolution solar filters or solar scopes reveal increasingly active sunspot groups.
- **Flares & CMEs:** Use solar telescopes or online observatories to track M- and X-class flares.
- **Aurora Potential:** Monitor auroral alerts (Kp index ≥ 5) following any CME hits—northern UK may catch rare Northern Lights.
- **Radio Effects:** Amateur radio operators might experience shortwave disruptions during geomagnetic or flare events.

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 August 2025 as seen from the UK:

CAUTION - This time of the year some of the planets are close to the sun. Looking at the sun through any none specialist equipment is very dangerous.

Evening Sky (After Sunset)

- **Jupiter:** Visible all night, and very bright at magnitude -2.5.
- **Saturn:** Visible all night in Pisces, at opposition on the 21st.
- **Uranus:** Visible all night in Taurus, magnitude 5.7 so will be visible through binoculars.

- **Neptune:** Visible all night at magnitude 7.8, at opposition on the 23rd.
- **Pluto:** Visible all night between Sagittarius and Capricorn

Morning Sky (Before Sunrise)

- **Venus:** A brilliant “morning star,” rising about 4.00am at magnitude 3.9. Occultation on the 18th.

September offers a wonderful window to see both inner and outer planets.

Mercury and Mars will not be visible this month due to being too close to the Sun.

Comets, Meteors & Asteroids



Meteor Showers

August offers excellent opportunities for **meteor shower observing**, including:

- **Aurigids** (August 28 – September 5), peaking on the 1st September with ~10 meteors/hour. It may be trickier to see with a quarter moon until late at night, so if you can head to darker skies that would be beneficial to seeing more meteors.

Asteroids

No bright asteroids visible with the naked eye this month

Binocular/Telescope level Asteroids

- **2 Pallas** will be visible in the constellation Aquila —peaks around **magnitude +9.5**. It will require good binoculars or a telescope to see.

Comets

In **September 2025**, there's no comets visible to the naked eye, but one visible through telescopes. would be 3I/ATLAS. `

Deep Sky Targets










For Telescopes & Astrophotography




August is with us and by mid month should be dark by 9pm, we will get some better astronomical levels of darkness (as can be seen [HERE](#)) with the summer milky way prominent

As discussed at the What's Up talk last Thursday here are some great targets to have a go at. Good luck all!

Target Name followed by a Google Search Link to take a look.

- **M27 (Dumbbell Nebula)** – In Vulpecula, bright and easy to spot.  [View Images](#)
- **M57 (Ring Nebula)** – In Lyra, a classic planetary nebula, small but bright.  [View Images](#)
- **Andromeda Galaxy (M31)** – Rising earlier each night, it's a great late-night target.  [View Images](#)
- **M33 (Triangulum Galaxy)** – A bit fainter than M31, but visible under dark skies.  [View Images](#)
- **Sagittarius Star Cloud (M24)** – A dense, bright patch of the Milky Way, great in binoculars or wide-field telescopes.  [View Images](#)
- **The Dark Shark Nebula (LDN 1235)** – A faint dark nebula in Cepheus, resembling a shark in Astro photos.  [View Images](#)
- **Stephan's Quintet** – A compact group of interacting galaxies in Pegasus.  [View Images](#)

If you can find somewhere with a low southern horizon it may offer a final chance to try to get:

- **Lagoon Nebula (M8)** – A bright emission nebula in Sagittarius, visible even in small scopes.  [View Images](#)
- **Trifid Nebula (M20)** – Near M8, this nebula combines emission, reflection, and dark nebulae.  [View Images](#)
- **Omega Nebula (M17)** – Also known as the Swan Nebula, a bright and detailed emission nebula.  [View Images](#)

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

C42 [Search](#)

M15 [Search](#)

M2 [Search](#)

C47 [Search](#)

M14 [Search](#)

NGC 6760 [Search](#)

NGC 6366 [Search](#)

NGC 6712 [Search](#)

The Moon

Ideal for exploring craters, mare, and mountains at any phase.

Bills Bulletin



Hi guys we are back again for another look at articles I hope you will be interested in. I have included some more science articles and summaries this time. It's often worth having a look at the abstracts and the conclusions as they are more detailed than the summaries if you are interested in a subject. The body of the article can be a bit bogged down with maths but have ago some are very readable cheers bill

Sun

Unlocking solar secrets

[NASA, IBM's 'Hot' New AI Model Unlocks Secrets of Sun - NASA Science](#)

Earth

Moon

Can we use biological substances to make oxygen, water and food on the moon ?

[In-situ manufacturing of photobioreactors on the Moon using local resources - ScienceDirect](#)

Lunar reconnaissance orbiter data used to predict moonquakes

[NASA's Apollo Samples, LRO Help Scientists Forecast Moonquakes - NASA Science](#)

Using lunar regolith as a building material

<https://sendy.universetoday.com/l/YH9ymnU1ShzDIi10b76myA/m3Yo763msDgl763WiCPKjxaeGw/763CPSZkuuHvUD763LLhgEYVZA>

Article link

[\[2508.00894\] Additive Manufacturing of PEEK/Lunar Regolith Composites for Sustainable Lunar Manufacturing](#)

The light mafic area Apollo 17 investigated may have been produced from a large impact

https://apple.news/AhuX_yk4OQWOeVsCw9FJhEA

Article

<https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2024JE008422>

Geologists on the moon

[The Stunning Astrogeology of the Apollo Missions - Universe Today](#)

It's cheese Gromit

[What is the Moon Made Of? \(Hint: It's Not Cheese\) - Universe Today](#)

Planetary

Pluto crater could have been a cryo volcano rather than via impact

<https://apple.news/A6yHBw2UGQZyKtsgsmTrVXg>

Modeling planet formation with a beaker of water ??? Read on and see how

[Modeling Planet Formation With Water Tornadoes - Universe Today](#)

Older than solar system meteorite lands in USA

<https://apple.news/ABw3GSukCTdilyC68S0MWnw>

Venus had a bombardment history as did the moon and the earth this paper describes it

[New Research Explores Venus' Violent Past - Universe Today](#)

Uranus and a new moon

[Scientists find tiny new moon around Uranus with the James Webb Space Telescope \(photos, video\) | Space](#)

[New Moon Discovered Orbiting Uranus Using NASA's Webb Telescope - NASA Science](#)

Mars internal structure revealed with data from insite

https://apple.news/A_cX1UARjTkWE0ukDXKh-2Q

Asteroids

The make up of bennu

[NASA's Bennu Samples Reveal Complex Origins, Dramatic Transformation - NASA Science](#)

<https://apple.news/AA22IFPVmS0qvz1b1U9a5vA>

Ceres was once warm and potentially habitable

[NASA: Ceres May Have Had Long-Standing Energy to Fuel Habitability - NASA](#)

Comets

Atlas 3LHubble data paper

[\[2508.02934\] Hubble Space Telescope Observations of the Interstellar Interloper 3I/ATLAS](#)

Sending juno to L3 atlas

[NASA's Juno Spacecraft Could Intercept 3I/ATLAS as it Approaches Jupiter - Universe Today](#)

More info on make up of L3

<https://apple.news/ALDwjgS-GSceS5fWCAVlqag>

Exoplanet

Webb may have found a planet on the habitable zone around alpha centurie

https://apple.news/AqBYT2RN_TM-E54rSUuaymw

Astro biology

Milky Way

The fermi bubbles at the centre of the galaxy shout not exist read on

<https://apple.news/AoDWV2NpcQ863MojevEsteQ>

Galaxies

Potentially the biggest black hole yet

Summary

[New method reveals perhaps the most massive black hole yet spotted | Science | AAAS](#)

Article

[Unveiling a 36 billion solar mass black hole at the centre of the Cosmic Horseshoe gravitational lens | Monthly Notices of the Royal Astronomical Society | Oxford Academic](#)

Imagining a blazer jet

<https://apple.news/AB4OUSaIVSUWwxZVCwl3GIw>

Fast radio bursts there could be an answer soon as to what they are

<https://apple.news/AefmnzuSXQ-mBjIUUSIE5uA>

Article

<https://iopscience.iop.org/article/10.3847/2041-8213/adf62f>

Cosmology

Pulsar glitches over long periods a study finds more glitches than seen before and offers explication of the process in a young pulsar

<https://apple.news/AibQSEFzURhC0w4yF2imxVA>

Article

<https://arxiv.org/abs/2507.18187>

Little red dots may not be as massive as first thought hence the lack of X-rays

[Little Red Dots Eat Fast, But Not Faster Than Eddington - Universe Today](#)

Article see below

[\[2505.09669\] Chandra Rules Out Super-Eddington Accretion Models For Little Red Dots](#)

JWEST has another look at red dots

[Distant Little Red Dot Hosts a Huge \(and Growing\) Black Hole - Sky & Telescope](#)

Dark matter could be in nano black holes

<https://www.popularmechanics.com/science/a65644536/hidden-dark-mirror-universe/>

Are population 111 stars really as big as we think. The first stars may not be as massive as we thought. Summary and paper link

[Were the Very First Stars Really That Massive? - Sky & Telescope](#)

Musical black holes

[The Vibrational Lives of Black Holes - Universe Today](#)

[Small Steps, Giant Leaps: Episode 160: Turning Space Data Into Sound - NASA](#)

Earliest explosion seen

https://apple.news/AeuhzRv_jR2OIm5XP3Wfozw

Schedules, links and contacts



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- [TV - BBC Sky at night \(Here\)](#)

- *Upcoming Space Launches ([Here](#))*
 - *Moon Phases ([Here](#))*
 - *Dark Sky Calendar ([Here](#))*
 - *Clear Outside - Astronomy weather forecast ([Here](#))*
 - *Cloud radar map ([Here](#))*
 - *Beginners guide ([Here](#))*
 - *Walsall Astronomy Facebook Group ([Here](#))*
 - *Walsall Astronomy Website ([Here](#))*
 - *Contact: Info@walsallastro.com*
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