SPACEWATCH

the newsletter of the Abingdon Astronomical Society

MAIN Meeting

8th September 2025

An astronomy guide in Namibia

Mark Radice
Andover Astronomical Society

EDITORIAL

I hope you all had a good summer break and are looking forward to the next season of astronomical goodness. The NLC season appears to have been quite active but unfortunately, I missed all of it as it seems that the displays happened in the morning skies and I am blocked from that view by a hill. The Perseids were, as expected, a washout due to the bright moon and a very hazy sky. Something that does not seem to impact our imagers at all. The summer skies appear to be being more affected now by wildfire smoke from Iberia as well as Canada which is making the skies increasing hazy. Saharan dust being brought up does not help either. The close Venus/Jupiter conjunction in the morning skies were seen by some but again as expected we had issues with cloud during the closest approach.

The main astronomical events for September will be the lunar eclipse (almost certainly going to be cloudy ☹) on the 7th September. The moon rises at about 19:30 in Eclipse so you will need a good flat eastern horizon for this one. The total part of the eclipse finishes about 19:55 with the moon still low. See chart later in Spacewatch There is also a occultation of the Pleiades in the early evening on the 12th September.

I must admit to splashing out on a few astronomical goodies over the summer including getting the new TeleVue Nagler Type 7 9mm. I have sort of had all editions of this focal length since the original 9mm Type 1 in the 1980's so I thought I would keep the tradition going. Unfortunately, I have not yet had a chance to use it. The Seestar's likewise have had a summer break.

On the political side I see the continued destruction of US Science by the Orange Baboon's administration continues apace, although at least Space X did not blow up its latest rocket attempt.

On the outreach side we have a couple of events we would like support for in October. Oxford Science would like to hold an event on the 24th October and would like our support. We also have Chris Holt's Abingdon museum event on the 30th October. I know the same people will probably be involved at both so if people are willing to help on the 24th if they can let me know so I can let the organisers know if we can help them otherwise, I will need to say no.
The equinoxes also seem promising for Aurora and with the Autumn equinox falling on the 22nd September maybe we will see more of these, although the Sun has been very quiet over the summer with all the sunspots being pretty inactive in terms of flaring.

The editor of "SpaceWatch" is Owen Brazell, who would very much appreciate your stories & contributions. In particular whilst many fine images are being posted on the discussion group it would be nice to have some in the SpaceWatch. Please send any news, observations, photos, etc. to:

owenb1367@gmail.com

REPORT OF LAST MEETING

June's Meeting

Prof Richard Ellis gave us a talk broadly based on his recently released book:

When Galaxies were born; the Quest for Cosmic Dawn.

As someone not long retired, he describes the JWST as a great retirement present. It's achieved so much as a result of its ability to expand on what the Hubble Deep Field image showed us. Its eight hour exposure showed lots of reddened galaxies with lots of gravitational lensing. That galaxies from 5 billion light years ago appear to look as they do today - spirals, barred spirals and ellipticals same as we see them today and that you have to look back to 1—2 billion LY after the Big Bang to start seeing the irregular blobs associated with the early universe.

(The Hubble deep field image from 2012, found the furthest redshifted galaxy at z= 11.9. Remember also that the JWST has been designed to look far back in time so that all its observations are made in the near and mid infra red.)

Oxford University's Harley Katz's modelling suggests a minimum of 200—300 million years after the big bang before we would detect anything. (Giving z=15.49 z=electromagnetic radiation redshift). (z=1 is about 7b LY)

Prof Ellis says that gravitational lensing can give magnification up to a factor of 50.

Prof Ellis gave us a potted history of his career.

Around 1981, fibre optics were first used in imaging galaxies for redshift but had to be manually set up for each galaxy on the photographic plate.

(Robotic fibre optics were first used at the Anglo Australian Telescope in 1988.)

He was director at Palomar in the early 2000s, then worked up to his retirement (if such a thing exists) at London UCL.

A mystery has cropped up, now that we can delve so much deeper, and that is how can galaxies with redshift z = 10 and further, be brighter than expected? At that stage, galaxies are about a tenth the size of ours today yet are forming stars at twenty times the rate of the Milky Way's rate. Elements up to nitrogen, oxygen, carbon and Iron are being detected. Supermassive stars? Starbursts?

So far, the JADES deep field study has stopped at z=14.5. (JWST Advanced Extragalactic Survey. Look it up.) Prof Ellis finished his talk by saying that long wavelength detectors such as those in the SKA (Square Kilometre Array) setup may enable us to see back to a few 100 million years after the Big Bang. The SKA - Low network in Australia is being constructed and will hopefully deliver exciting results near the end of the decade.

What's up for September 2025

Steve Creasey and Cristina Garcia Pozuelo Sanchez

I hope you have all had a nice summer break. After our trip to Australia and New Zealand in April and seeing how incredible the Milky Way looked, I decided to upgrade my cameras star tracker mount, after some issues with the clutch screws coming undone while imaging with the old version. I went for an iOptron Skyguider Pro. I have only managed to use it a couple of times, but already I can see it is much less fiddly to use and is very simple to set up! After a couple of goes imaging from home, I am hoping to be able to do some night scape images in a dark sky location before we lose the Milky Way to the Autumn.

Astronomically speaking, autumn begins at the September (or southward) equinox.
In 2025, the centre of the Sun crosses the celestial equator on 22 September at 19.20 BST, marking the Northern Hemisphere's autumn equinox.
At this point the Sun moves from the northern celestial hemisphere to the southern celestial hemisphere.
The September equinox also marks which Full Moon is determined as the Harvest Moon for that year, this year it will be on the 6th October as that is the closest one to the Equinox.

As the nights get longer, the asterism, the Summer Triangle of stars (Deneb, Vega and Altair) start to give way to the autumn constellations such as Pegasus, the distinctive 'W' shape of Cassiopeia, and Andromeda. This means that firstly after dark we can see our own galaxy, The Milky Way, then later as the night progresses we can have a look at our neighbour the impressive spiral Andromeda Galaxy.

The Planets

Mercury

Will only be visible until around the 3rd of September, after that it will be too close to the Sun to observe. Superior conjunction is on the 13th of September.

Venus

- Visibility: Venus will be visible in the eastern sky before sunrise.
- Best viewing time: About 45 minutes to an hour before sunrise.
- Brightness: Venus will be quite bright, with a magnitude of around -3.9, making it easy to spot.
- Position: Look for Venus in the constellation of Leo or Virgo, depending on the specific date.

Mars

- In the early evening sky but too close to the Sun to be visible."

Jupiter

- Visibility: Jupiter will be visible in the eastern sky before sunrise.
- Best viewing time: About 1-2 hours before sunrise.
- Brightness: Jupiter will be bright, with a magnitude of around -2.0.
- Position: Look for Jupiter in the constellation of Leo.

Saturn

Saturn is a late evening object throughout the month and reaches opposition on 21st September with an altitude of 34 degrees. The

rings will be hard to see with a tilt angle of about 2 degrees. Magnitude 0.2

Uranus and Neptune

- Visibility: These planets will be more challenging to spot, requiring binoculars or a telescope.
- Best viewing time: Look for Uranus in the early morning hours, and Neptune after midnight near Saturn."
.
- Position: Uranus will be in the constellation of Aries, while Neptune will be in the constellation of Pisces or Aquarius

Meteor Showers

The amount of meteors you are likely to see at the peak of a meteor shower, is given as the ZHR (zenithal hourly rate), this is a guide, it is calculated for an optimal dark sky, so the amount you actually see will depend a lot on the level of light pollution you have in your area. There have been plenty of occasions where the peak has thrown up a surprise and the numbers have been way above the predicted ZHR, so always worth a look if you get the chance.

The **Aurigid** meteor shower will be active from 28 August to 5 September, producing its peak rate of meteors around 31 August, however it is a fairly low ZHR at only around 6 at its peak.

The September **ε-Perseid** meteor shower will be active from 5 September to 21 September, producing its peak rate of meteors around 9 September, this is also another shower with a low ZHR at only 5 at its peak.

The Daytime **Sextantid** meteor shower will be active from 9 September to 9 October, producing its peak rate of meteors around 27 September.
The shower will not be visible before around 04:39 each night, when its radiant point rises above your eastern horizon. It will then remain active until dawn breaks around 06:20

Comets

The main comet of interest at the moment is the interstellar comet 3I/(Atlas) Although it is fairly faint it would be in range of the imagers, if they could ever move to something apart from repeat observations of things they have done before. This will be the last chance to see it before it goes into solar conjunction and does not reappear until mid-November. Otherwise, we have a surprise comet in C/2025 A6 (Lemmon) which is running much brighter than expected, although it is in Gemini so a morning object. It should be visible in modest telescopes.

Deep Sky Objects

- 1. North America Nebula (NGC 7000): A large emission nebula in Cygnus, shaped like the continent of North America. Visible with binoculars or a small telescope under dark skies.

- 2. Veil Nebula (NGC 6960): A vast supernova remnant in Cygnus, best observed with a telescope and UHC filter.
- 3. Crescent Nebula (NGC 6888): An emission nebula in Cygnus, formed by the stellar winds of a Wolf-Rayet star. Visible with a telescope and narrowband filter.

- 4. Iris Nebula (NGC 7023): A beautiful reflection nebula in Cepheus, visible with a small telescope.

- 5. Cocoon Nebula (IC 5146): A combination of emission and reflection nebulae in Cygnus, best observed with a telescope and UHC filter.

- 6. Pelican Nebula (IC 5070): An emission nebula in Cygnus, part of the same interstellar cloud as the North America Nebula.

- 7. Pyramid Cluster (M39): An open star cluster in Cygnus, visible with binoculars or a small telescope.

- 8. Pacman Nebula (NGC 281): A bright emission nebula in Cassiopeia, visible with a small telescope.

- 9. Fireworks Galaxy (NGC 6946): A face-on spiral galaxy in Cepheus and Cygnus, challenging to observe due to low surface brightness.

- 10. Angelfish Cluster (M71): A sparse globular cluster in Sagitta, visible with binoculars or a small telescope.

Clear Skies
Steve and Cristina

BORROWING THE SEESTAR

As many of you will know, the Society now owns a Seestar 50 telescope, which is available for members to borrow.
It is small, extremely portable, easy to store, and easy to use via a free downloadable app on your smart phone.
Unlike traditional telescopes, you cannot look through the Seestar. It is used to take digital images that are downloaded to your phone (which you can then download to a PC, etc for image processing if you so desire).
Apart from an off/on button physically on the telescope, all commands and instructions go through the phone app.
Apart from needing your own smart phone, everything you require is supplied.
You need no experience of either using a telescope or image processing to use the Seestar as it does virtually all the work for you automatically.
However, there are plenty of user options if you want to play around with it.
There are two main requirements if you want to borrow the Seestar.
The first is you have to have been a member of the society for the past 18 months, and the second is you have to leave a deposit of £50.
The money is fully refundable as long as you return the Seestar in the same condition as you received it.

You can borrow the Seestar for two calendar months (longer if nobody else has asked to borrow it) so you get plenty of time to take lots of images.
If you are interested in borrowing the equipment contact me at bobdryden@ntlworld.com

Bob

Upcoming Meeting Notes

Observing evening: Observing evening: There will be no virtual observing sessions this season unless we can find someone to take over running them if we continue them next session.

Beginners' meetings: There is a beginner's meeting on the 29th September at the usual venue starting at 20:00. Talk titles to be on Eyepieces (a strange piece of equipment for many members) and WhatsUp topics as always subject to change depending on speaker availability.

Mailing List: After a number of months of issues with the aaslist failing we have now moved to a new list on groups.io called

abingdonas@groups.io

The new Groups.io group mailing list has been created and Groups.io are sending out invitations to 89 addresses
The old list on its homepage said:

1. **This mailing list is a public mailing list - anyone may join or leave, at any time.**

This mailing list requires approval from the List Owner, before subscriptions are finalized.
...
This mailing list is for email discussions of astronomical topics and the exchange of messages, notices of meetings and events organised by Abingdon Astronomical Society and others, and astronomical news between members of Abingdon Astronomical Society.

On the new list homepage (at https://groups.io/g/abingdonas/),
This Groups.io Group and mailing list is for email discussions of astronomical topics and the exchange of messages, notices of meetings and events organised by Abingdon Astronomical Society and others, and astronomical news between members of Abingdon Astronomical Society.

Group membership is primarily for current and/or recent members of Abingdon Astronomical Society. Those who are permitted to join the Group but do not become members of Abingdon Astronomical Society nor have been recent members may, in due course, be removed from this Group.
The Group is not listed in the Groups.io directory but, currently, once found the archived messages will be visible publicly.

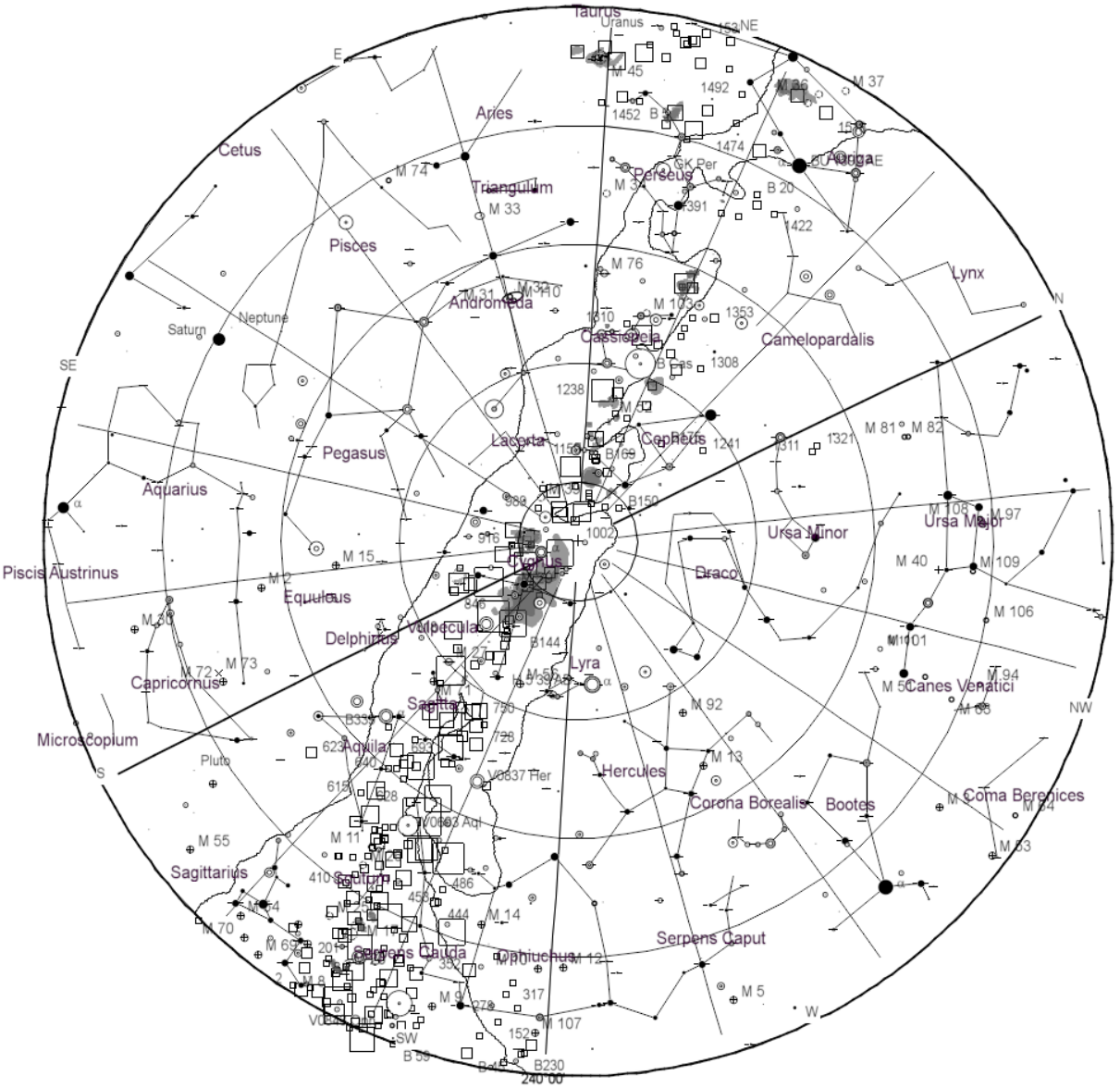
Members of the current aaslist should have been invited to join but if you have not then you can subscribe from the website

We also operate two Facebook groups so you can also keep in touch with the society through those.

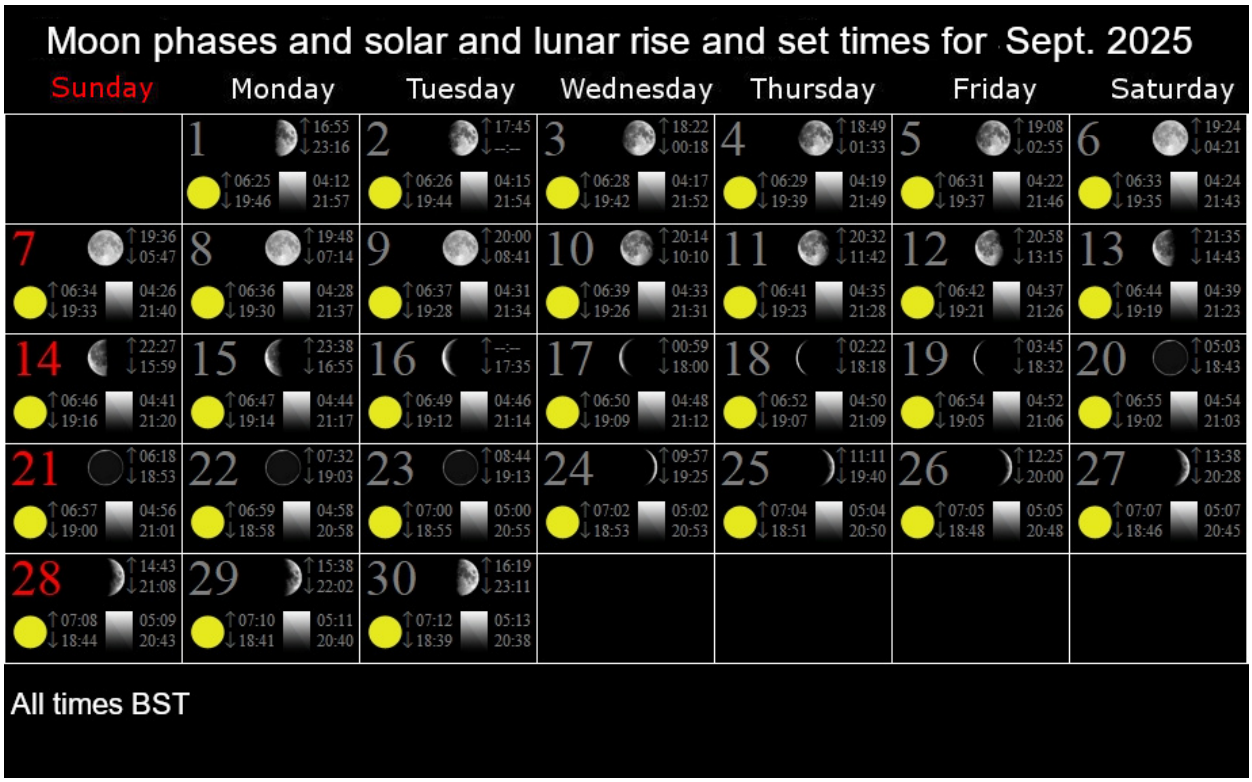
We have also setup a new WhatsApp group for real time announcements of astronomical/meteorological (NLC, Auroral) phenomena. The group is open to all members of the society. To join leave your mobile number with any member of the committee and you will receive an invite to join

STAR CHART

The night sky at 22:00 (BST) Monday 15th September 2025

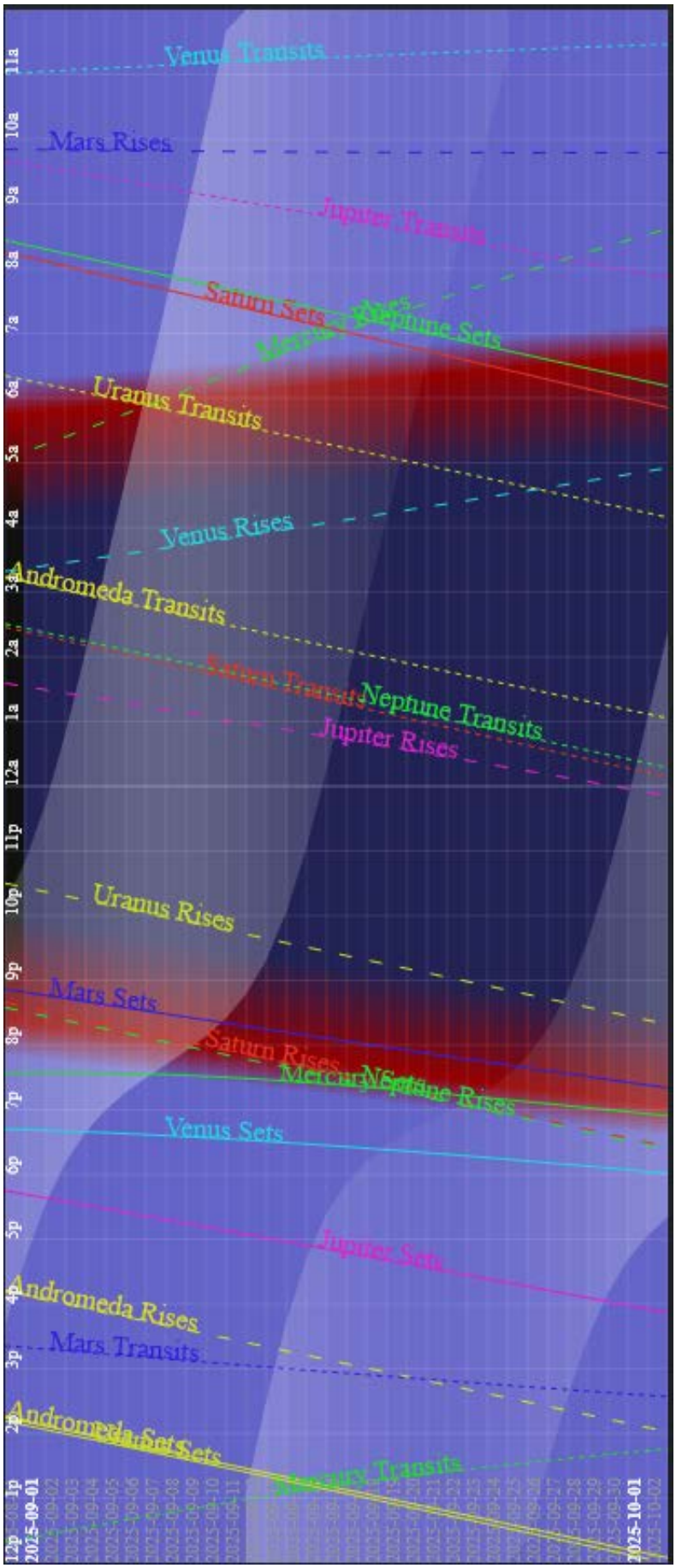


MOON PHASES SEPTEMBER 2025

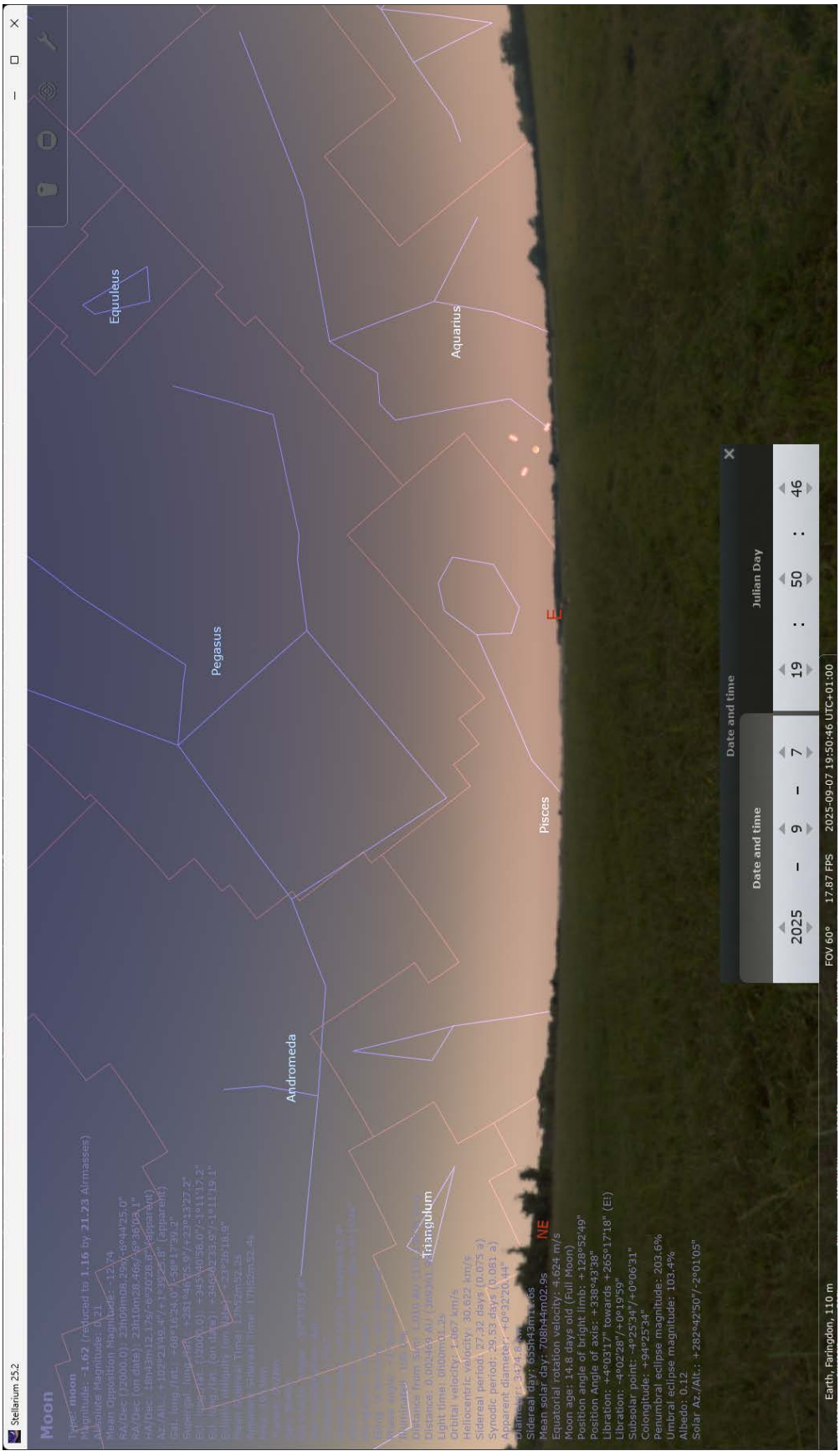


Beginners Meeting Talks 2025/26

Date	Long Talk	Speaker	Long Talk	Speaker
SEP 29th	Whats Up	**Dan**	Eyepieces -	**Owen**
OCT 27th	Jupiter	**Ian**	NEO	**Bob**
NOV 24th	Xmas Meal			
DEC 1st	First Telescope	**Ian**	Orion	**Owen**
JAN 26th	Brown Dwarfs	**Dan**	Intro. to Solar System Imaging	**Chris Pickford**
FEB 23rd	TBC	**Cristina**	Messier Marathon	**Owen**
MAR 16th	Observing Planetary Moons	Bob	Weather Apps & websites	**Chris**
APR 27th	TBC	**Cristina**	Naming Astronomical Objects	**Dan**
MAY 18th	Local Galaxies	**Owen**	Setting Up an Equatorial Mount	**Chris**
JUN 15th	Solar Eclipses	**Bob**	Putting Together a Mobile Imaging rig	**Ian**



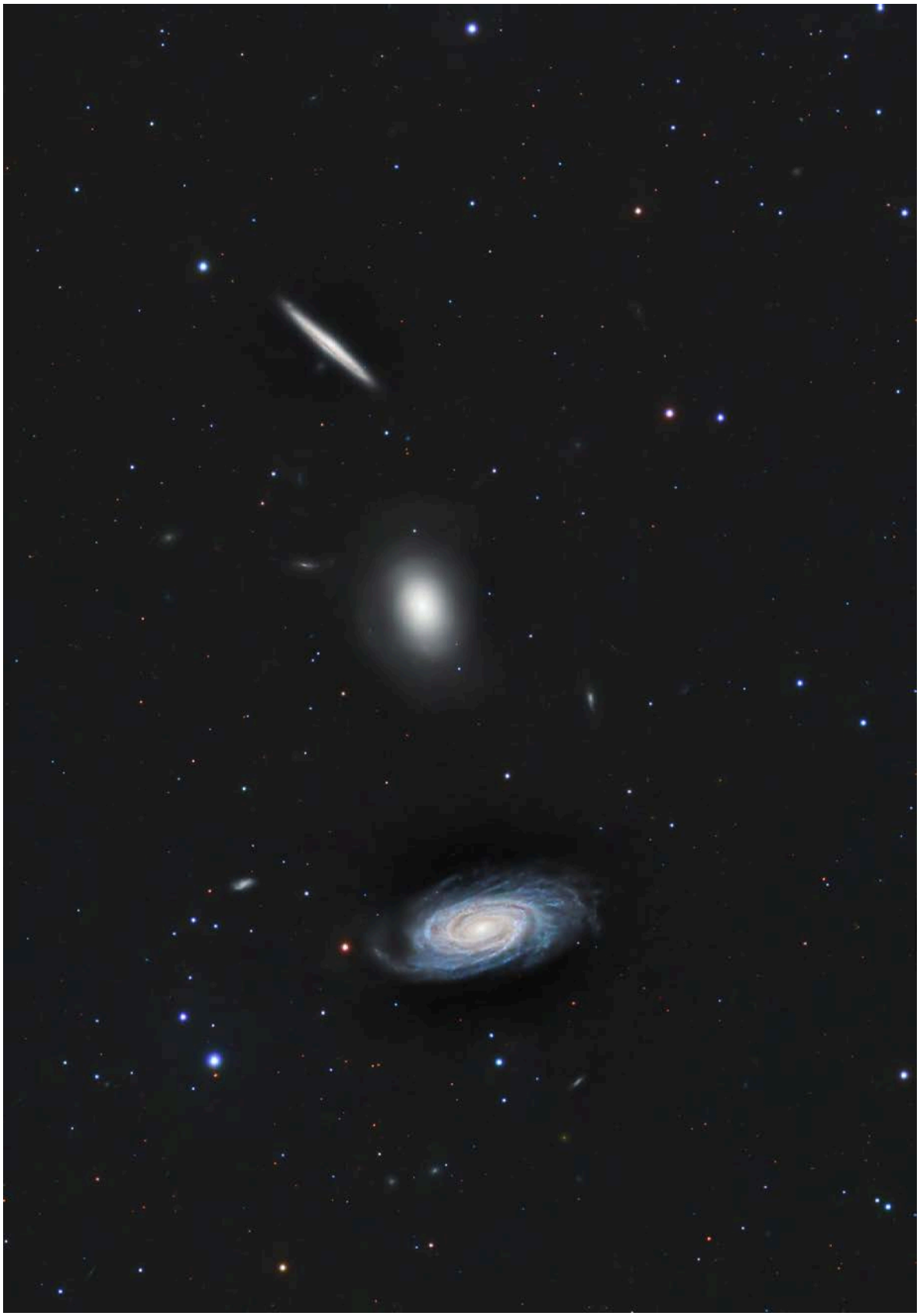
Planet rise and set times for September 2025



Lunar Eclipse chart

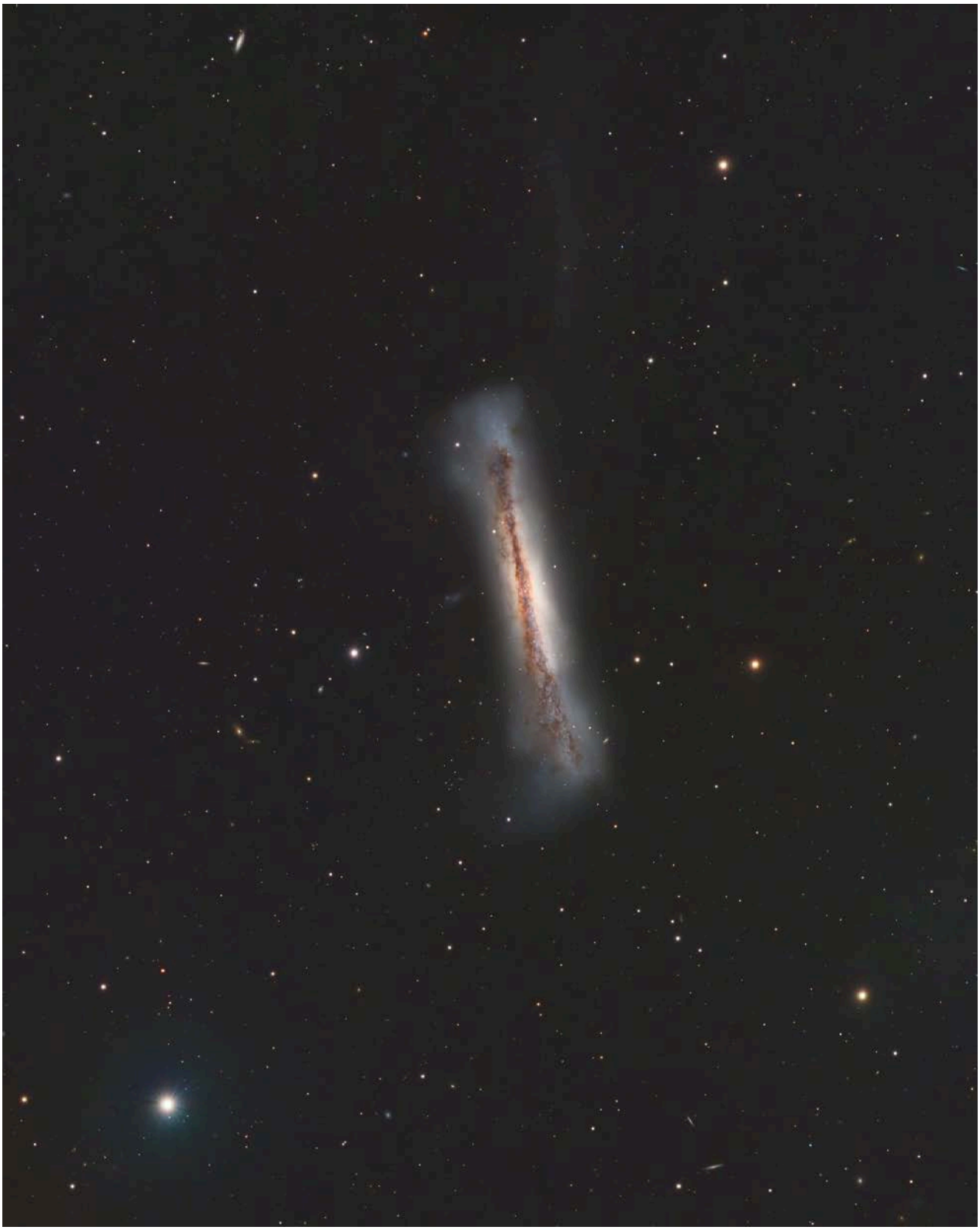
Recent images from Members

SH 2-155 – Roland Gooday



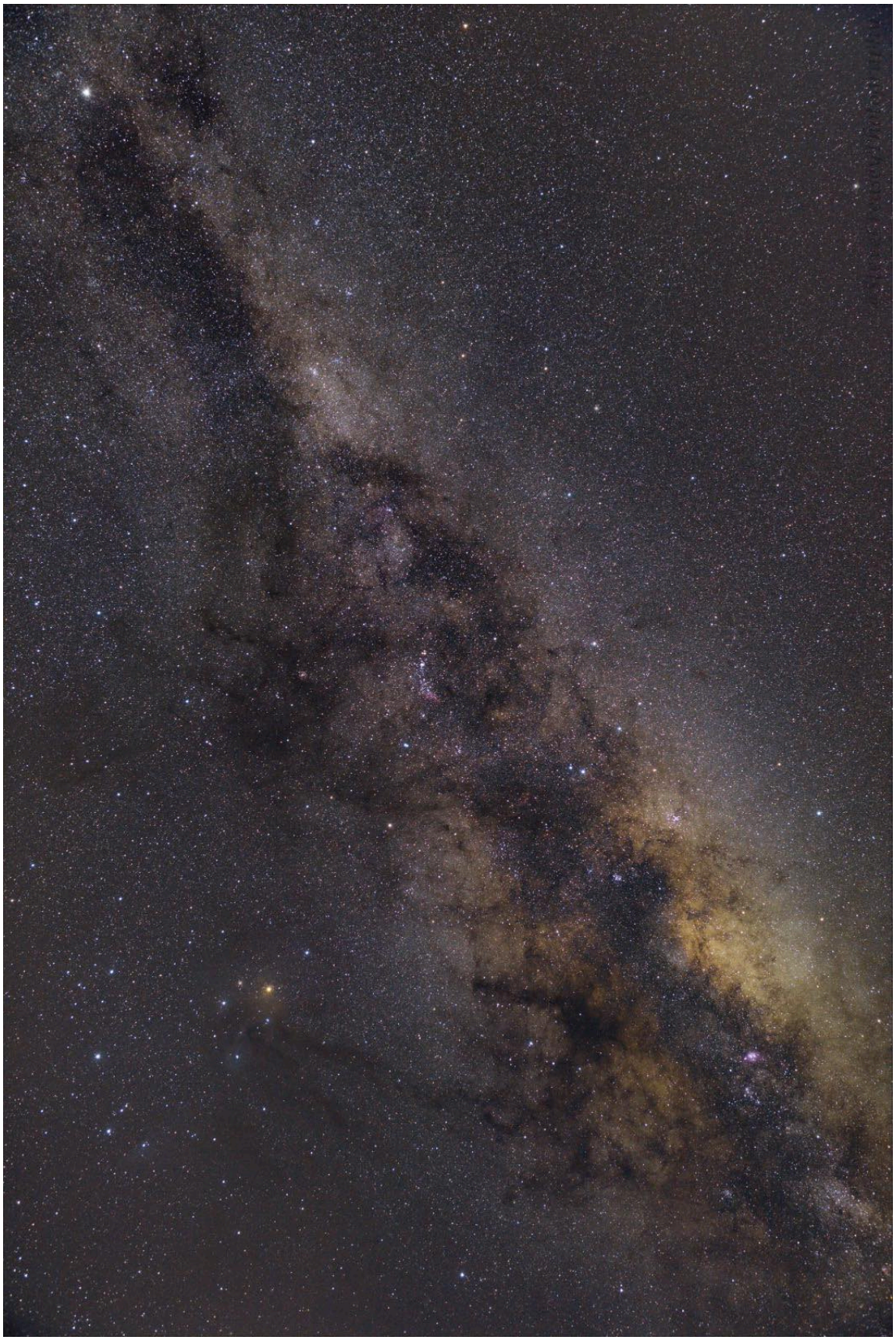
Draco Triplet (NGC 5981, 5982 and 5985) – Clifford Marcus

Bubble Nebula – NGC 7635 – Charline Giroud



NGC 3628 – Clifford Marcus (Part of Leo Triplet)

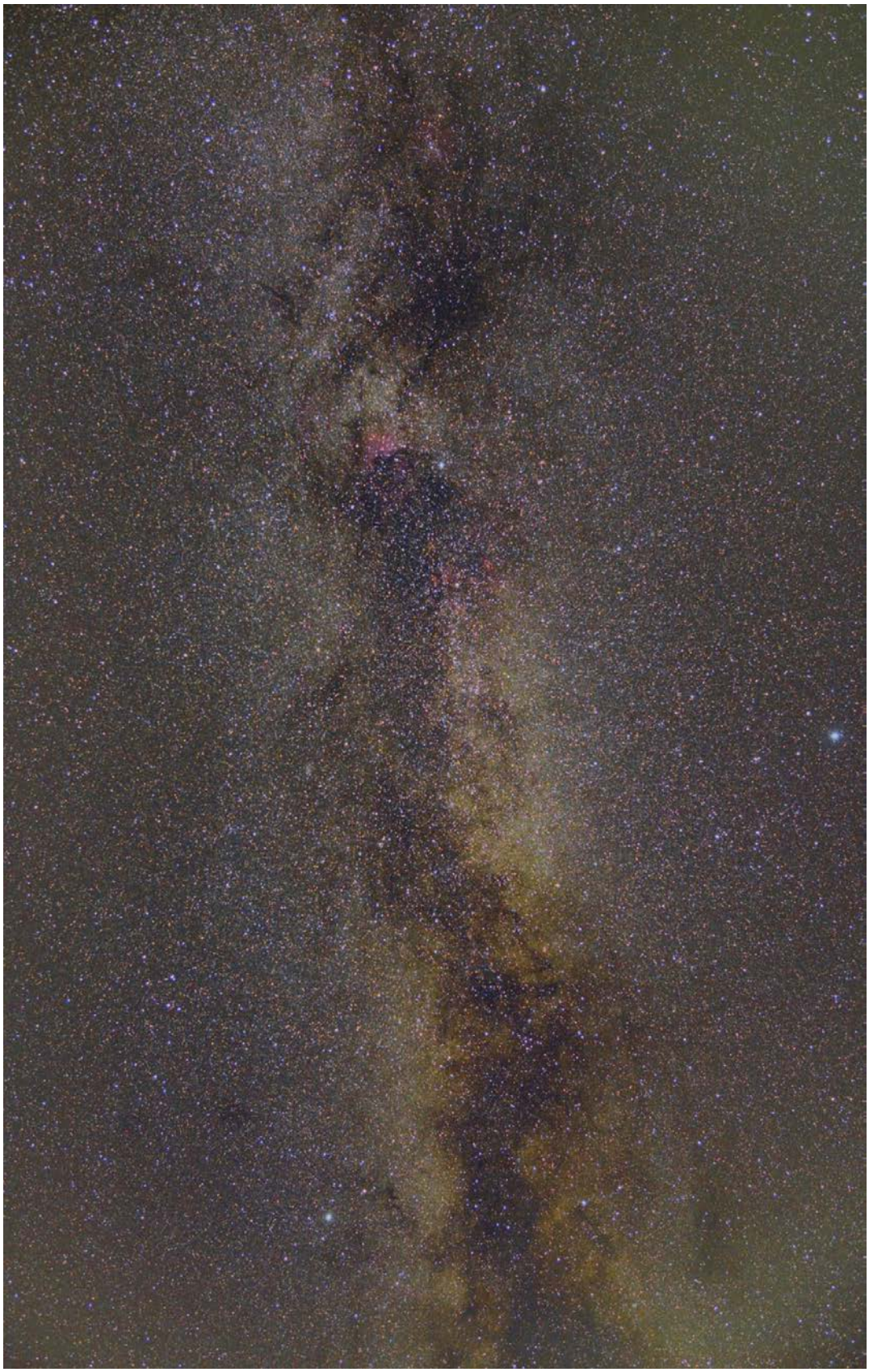
Horsehead Nebula (B33) – Clifford Marcus



Milky Way Centre as seen from New Zealand – Steve Creasey

Jupiter and Venus conjunction as seen through Cloud – 13th Aug – Owen Brazell

NGC 7331 and the Deer Lick group – Clifford Marcus (along with SN 2025rbs)



Milky Way from Stanford in the Vale – Steve Creasey Nikon D810 with a 28mm lens 30x30 secs