Cover image - M8 Lagoon Nebula
By Dennis Cooke

SCORPIUS

THE JOURNAL OF THE
MORNINGTON PENINSULA ASTRONOMICAL SOCIETY INC.

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The Mornington Peninsula Astronomical Society (formerly the Astronomical Society of Frankston) was founded in 1969 with the aim of fostering the study and understanding of astronomy by amateurs and promoting the hobby of amateur astronomy to the general community at all levels.

The Society holds a focused general meeting each month for the exchange of ideas and information. Regular public and private observing nights are arranged to observe currently available celestial objects and phenomena. In addition, the Society encourages the service of its members for on-site or off-site educational presentations and observing nights for schools and community groups.

MPAS - https://www.facebook.com/mpas0/

MPAS Members - https://www.facebook.com/groups/MPAS1/

Scorpius MPAS - https://www.facebook.com/Scorpius-MPAS-1694951307446763/

Mornington Peninsula Astronomical Society

SOCIETY NEWS

School Viewing Night September 1st & 2nd - All the Year 7 girls from Toorak College in Mount Eliza arrived at the Briars by coach this week on September 1st and 2nd for two astronomy nights. This has become an annual pilgrimage for the school for a few years now, due to the value and inspiration they see in what we provide.

The first night had 55 students and teachers arrive bang on time. Since there was only 5% clear sky visible through wispy cloud, and fortunately the first quarter Moon was in that area, we began the evening with some lunar observing, before everyone moved indoors to hear Katherine McCoy and Peter Skilton give the talk. This was Katherine's 50th outreach talk at MPAS, and she received a round of applause from the girls. The questions came fast and furious from the word go, and were well thought out ones. This night had 3 classes present, and they were very knowledgeable in astronomy, despite it not being covered at school as a science topic for another week or two yet.

Other members helping outside with the instruments were Sylvie Grandit, Julie McErlain, Phil Peters, Fred Crump, Chris Kostokanellis, Ben Claringbold and Manfred Berger. Although Cloud Free Night (these days only using the coarse GFS weather model) predicted the skies would clear for an hour or two, unfortunately they did not improve at the Briars, which precluded use of the SeeStar instrument.

The second night had 35 students and teachers arrive from the remaining 2 classes, with Katherine and Peter giving the talk again. Lots of high quality questions ensued, often in pairs of questions, with only one cheeky question from a girl about whether a flat Earth was true. That was quickly squashed by peer pressure before we tried answering it. The sky conditions were totally clouded over to start the evening, with the weather prediction being for no hope of seeing the stars that night or morning. Needless to say, but the weather prediction was wrong for the Briars again, with the skies clearing in time for the group to see and photograph the Moon with their smart phones, and Crux, the Pointers and several bright stars were easily visible. Saturn only started to become visible just before the coach had to leave, so only a couple of students and teachers were able to see it in time.

Other members helping outside with the instruments were Sylvie Grandit, Phil Peters and Chris Kostokanellis, with Ben Claringbold leaving early just before the clouds started to clear; oops. So they received a surge of students. Interestingly, the coach driver sat in on the talk on the second night, and I noticed him admiring the member photographs inside the auditorium. So while the students were at the telescopes, Katherine and I were talking to him about them, and he showed us aurora and lunar eclipse photos on his phone that he'd taken with a Sony digital camera, and they were impressive. He'd never belonged to any astronomy society, and just had an interest in photography. I heard later that Chris also was speaking to him outside about photography as well, so it's entirely possible we might have a new member soon, just in time to enrol for this year's Astrophotography Workshop. *Regards, Peter Skilton*

Public Viewing Night September 5th - The September public stargazing night at the Briars was a bit chilly and saw 5% thin high-level cloud all evening, ahead of an approaching cold front. Under a waxing gibbous Moon, 52 visitors attended, including an astronomy postgrad student from Monash University, and 3 undergraduates from Melbourne University. The extremely keen undergraduate ladies, for whom English appeared to be a second language and who were wearing fluffy pink ear muffs and fluffy coats, had confidently commuted from Melbourne via public transport. This was by train from the CBD to Frankston, then bus to Mount Martha Craigie Rd, then taxi to the observatory. This impressive journey must have taken them about 2 hours one-way.

After a period outside looking at the Moon and Saturn with the telescopes, just in case the cloud thickened, the visitors were rounded up to hear Guido Tack give a new presentation indoors about carbon, then everyone moved outdoors again for more night sky sights. Other members present and helping included Adrian Boschetti, Leigh Hornsby, Fred Crump, Sylvie Grandit, Chris Kostokanellis, Simon Hamm, Peter McConnachie, Mark Stephens, Manfred Berger, Yvonne Hsu, John Goodall, Mike Smith, Stephanie Ng, Erica & Ryan Burmeister, Phil Peters, Leanne Downing, Wayne Redpath, Edwin & Lucas Ingles, Selissa Damor and Peter Skilton. I think a couple of newer members might have been missed in this list, so please remember to sign the attendance book by the reception counter, so we know you're there participating.

On the way back at the end of the evening, I drove the undergrads to Frankston railway station so as to halve their journey back home to Melbourne and get them safely on their way. It was a relief to see plenty of PSOs patrolling at that time of night about 10:30 pm. They were absolutely thrilled at their big adventure in astronomy and said they'd tell all their friends at Uni about us. *Regards, Peter Skilton*

Astrophotography Workshop September 13th - The 2025 Astrophotography Workshop was a members-only event this year.
29 members attended the event, including participants and presenters. Keen astrophotographers began arriving from just before 4 pm for the 4:30 start, to see Jamie Pole, Guido Tack, Greg Walton, Chris Kostokanellis and Ben Claringbold talk about and demonstrate the equipment and techniques used to image the night sky.

Jamie Pole delivered an informative presentation on the basics of DSLR astrophotography. Guido Tack and Greg Walton followed, with Guido giving his presentation on what types of objects we can see and image, and Greg demonstrating the process of creating spectacular time-lapse videos.

Then, right on cue for our dinner break, President Peter Skilton arrived with a Wagon full of Pizzas for the bewildered participants, giving them a chance not only to ingest the Pizzas, but to also digest the information they were inundated with during the first round of talks. Chris Kostokanellis then delivered the final presentation on long-exposure wide-field astrophotography using a sky tracker and camera lenses. Next, Ben Claringbold showed his Astrophotography rig and spoke to participants about the various components and the capabilities of the ASIAIR computer. Mark Stephens and John Cleverdon and Simon Hamm were also on hand to assist with the day's proceedings, making sure everything ran smoothly.

Unfortunately, the weather remained mostly overcast, leaving us without an opportunity for a practical session. Instead, there was an extended Q&A session indoors, including discussion about various types of equipment, and some processing techniques.

Thanks to all the members who attended the event and assisted during the day's proceedings, and to John Cleverdon for the photos below.
Regards Chris Kostokanellis

Jamie Pole in action delivering a very informative talk.

Guido Tack taking questions on astrophotography targets.

Dinner is served.

Chris Kostokanellis talking about tracked imaging.

Society Meeting September 17th - The main topic was via Zoom connection with Perth, Western Australia, about "TeraNet-3 and Laser Space Communications", presented by PhD candidate, Ayden McCann, from the International Centre for Radio Astronomy Research (ICRAR) and the Astrophotonics Group at the University of Western Australia (UWA).

The Astro Mo Pho challenge was presented by Chris Kostokanellis, and Guido Tack presented Sky for the Month. Then Dave Rolfe, Nerida Langcake and Guido Tack presented about the Australian Space Summit that they attended in Sydney earlier this year.

Science videos then followed explaining 'What is a Photon', about the Kessler Syndrome, and about Apollo's different computers that flew humans to the Moon.

Closure showed "The Sounds and Visions of Silence" including footage captured by 3 International Space Station astronauts, courtesy of NASA JSC, and set to the audio of "Little Planet" by Ben Tissot, courtesy of the No Copyright Music channel.

If subscribed, you may be notified of this automatically by YouTube.

You can also watch it here by clicking on this link and going to the most recent video on the channel:
https://www.youtube.com/channel/UCm6XOkIcIflt4y0XRBXpXuw

or watch it on the MPAS site once it's refreshed for this month: https://www.mpas.asn.au/meeting-recordings/

Regards, Peter Skilton

Telescope Learning Day and BBQ September 20th - This public event normally attracts large numbers, but due to the cloudy skies and a bitterly cold wind the numbers were down. We had a good turnout of members eager to help the public set up their telescopes. We also ran a Buy Swap and Sell on the day, but we had no takers.

Guido did a presentation on the different types of telescope and how to use them, after which Ben did a presentation on his astrophotography setup. By then Mark Stephens had cooked the sausages on the BBQ.

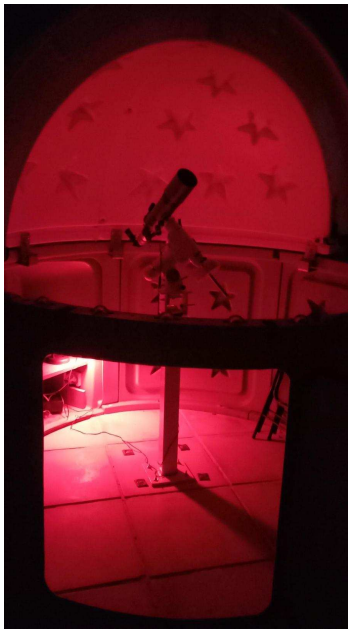
Thanks to all the members who attended the event and assisted during the day's proceedings, and to John Cleverdon for the photos below.
Regards Greg Walton

Public Viewing Night October 3rd - saw the public stargazing night at the Briars attended by 80 visitors from far and wide.

The evening started clear at the Briars, though was very cloudy further to the north, so telescope usage outside was undertaken for the first half hour, just to play on the safe side. The Moon and Saturn were clearly visible, as were the usual brighter nebulae and star clusters.
The group then moved indoors to hear Trevor Hand give his updated talk about interstellar visitors. The skies gradually became more cloudy during the talk, so it was the right call to have the viewing outside upfront as there was little to see in the sky by the end of the evening.

Members helping and present during the evening included Phil Peters, Ally Midwood, Peter McConnachie, Katherine McCoy, Julie McErlain, Peter Skilton, Simon Hamm, Jamie Pole, Liam Laube, Greg Walton, Ben Claringbold, John Goodall, Guido Tack, Adrian Boschetti, Leigh Hornsby, Wayne Redpath, Fabiola Ceruti, Edwin Ingles, Selissa Damor, Lucas & Kate Cusack, Manfred Berger and Chris Kostokanellis. We also had project manager, Julian Fawcett, from the Shire, and Kerrie Munrosos (if I read the handwriting in the attendance book correctly).

Regards, Peter Skilton



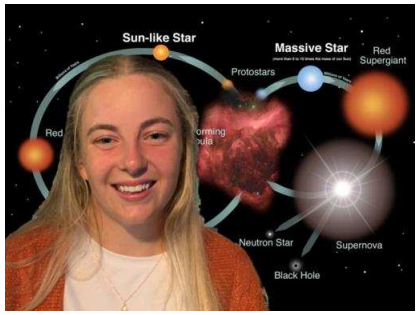
Indigenous Astronomy Talk and Public Viewing Night October 10th - The extra public night held on 10th October at the Briars had 51 visitors attend. Before the talk, there was some telescope viewing and observing of a bright passage overhead of the International Space Station in the twilight.

The group then moved inside to hear a talk on Indigenous Astronomy by Dr. Tim Patston, featuring the constellations visible at this time of year. The attendees appeared to be single and couple adults, rather than the many children we see at our usual public nights, possibly suggesting the topic was appealing to a different group of visitors.

Following the talk the visitors went outside to the telescopes again, now that the sky was darker, and were treated to a return visit, just over 90 minutes after the first, by the International Space Station over to the south west. This was also a bright passage and easily seen by eye. Two pass-overs in the evening aren't common, as it requires the ISS to be above the horizon and with the Sun (being below the horizon) in the right position to reflect light back to the observer on the ground.

Members helping and present on the evening included Chris Kostokanellis, Ally Midwood, Sylvie Grandit, Katherine McCoy, Mark Stephens, Peter Skilton, Simon Hamm, Dave Rolfe, Leigh and Marlene Hornsby, Connor Matheson, Kit Penfold, Manfred Berger Julie McErlain, , Hohlweg, Jamie Pole, Greg Walton, Phil Peters, Edwin Ingles, Selissa Damor, Ben Claringbold, Nerida Langcake and Piper Grierson who had proudly just gone onto her L plate. *Regards, Peter Skilton*

Cosmology 1:45pm October 11th - saw 18 the attended at the Briars.



Society Meeting October 15th - For those of you who are not yet subscribed (it's free) to the MPAS YouTube channel, the monthly meeting has been uploaded.

The main topic was about "Cosmic Fireworks: The Explosive Fates of Massive Stars", presented by Astrophysics PhD candidate, Jennifer Quinlan, from Monash University. Her talk not only included some of her research to date on what happens inside large progenitor stars at the point of supernova collapse, but also about her experiences working on the Monash University Nova Rover team, designing a practical Rover to search for biological life on other worlds, and competing nationally and internationally with other Universities with it.

The Astrophotographic challenge was presented by Chris Kostokanellis, and Guido Tack presented Sky for the Month.
A science video then followed explaining what eventually happened to the Mars helicopter, Ingenuity, and what it's still doing today.

Closure showed "The NASA and Partner Space Agency Full Fleet of Spacecraft as of July 2025", courtesy of the NASA Scientific Visualisation Studio, and is set to the audio of "High In The Sky" by Alexi Action, courtesy of the No Copyright Music channel.

You can also watch it here by clicking on this link and going to the most recent video on the channel:
https://www.youtube.com/channel/UCm6XOkIcIflt4y0XRBXpXuw *Regards, Peter Skilton*

School viewing night 16th - saw 65 year 3 students and teachers from Yarra Valley Grammar visit the Briars while there on school camp, including some hearing impaired children as well.


By Sylvie Grandit

The talk indoors was given by Katherine McCoy and Peter Skilton, with many questions fielded all evening. To assist those with hearing challenges, the speakers held a special microphone that the teachers brought along, which broadcast to all the hearing aids. We used the same device when this school visited us last year as well.

Unfortunately the weather was unkind and remained overcast all evening, so telescope viewing outdoors wasn't possible. Fortunately the kids had plenty of stamina for the end of the day after doing camp activities all day and cleaning up after dinner, and asked lots and lots of questions, with a few statements made as well.

Other members who attended, ready to help with telescopes should the clouds part, were Adrian Boschetti, Sylvie Grandit, Phil Peters, Ben Claringbold, Fred Crump and Chris Kostokanellis. *Regards, Peter Skilton*

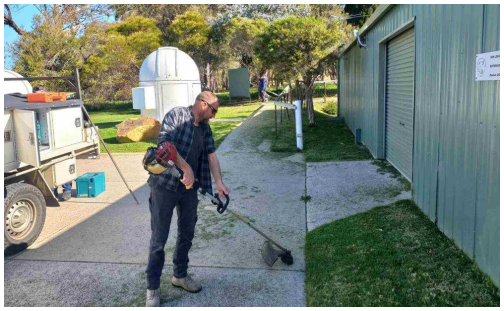
Call for articles.

Members please write a story about your astronomy experiences, subject of interest, tips and tricks, how you got into astronomy, and also please add some pictures.

Send them to the editor: Greg Walton gwmpas@gmail.com

Members Night BBQ, Working Bee August 18th - Saturday's working bee and BBQ was held on a beautiful sunny spring day, with a top of 21 degrees, and just a light breeze. 28 members attended, including new members Karoline Holweg, Sheryl Brown and Ingrid Magnusson.





Our illustrious observatory manager, Greg Walton, started the day early, putting a new tap in the toilet, making a tray for the Sky Venture telescope, and cutting some branches back for the recently installed dome. Greg was keen to get the dome finished, and had installed a 100mm refractor telescope during the week. Adrian Boschetti and Karoline set to work cleaning it inside and out, and were watched by some very council-like workers! And John Goodall was busy fixing a heater cable on the refractor in the main observatory.

Being spring, the lawns needed a good mow and whipper snip, with Ben Claringbold, Leigh Hornsby and Paul Jennings all doing a great job around the entire site. They were closely followed by Ingrid Pinkerton, diligently raking up any large clumps of grass and taking it down to the bottom paddock. Simon Hamm and Andrew Parsons trimmed the trees on the northern fence line, and Chris K and Adrian filled a gap in the trees on the camp border, using the old outdoor viewing screen. This will help to stop light coming in from the camp next door. Chris also fitted some red lights around the main dome door, to stop people from tripping and bumping their heads on the way in.



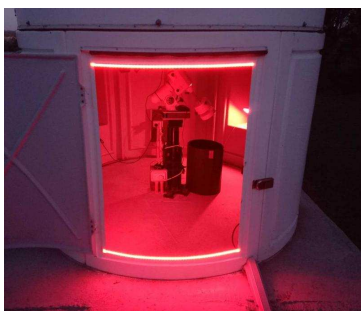
Up in the main shed, Michelle Sykes and her son Will began cleaning the auditorium, and were soon joined by Ally Midwood and her son Lew and others. Everyone got busy stacking the chairs and setting up the tables for dinner. And I mustn't forget Marlene Hornsby, who did a great job cleaning the kitchen and vestibule, not to mention the toilet. Thanks, everyone!

Simon, who is always trying to find interesting things for the sales counter, has been getting in some very interesting puzzles lately, and set up a table for people to try their hand. Apparently, if you can solve them, you can get one for free. I did see Charlotte Swart trying amongst others, and Simon tells me 2 puzzles were solved. Don't be fooled thought, some are really hard!

Soon Jamie Pole arrived with the food supplies, and Sheryl Brown, Anne Danne, Sylvie Grandit and many others all chipped in to prepare the salads and desserts for dinner. I wondered why poor Sylvie was crying, but she got the job of cutting up the onions again! Anne and Geoff made a chocolate ripple astro cake in the shape of a large letter A, along with many other culinary delights brought in by members. Mark Stephens and Jamie then fired up the BBQ, with help from Ben and Peter Lowe, who cooked his own heavily guarded steak. Soon dinner was served, and everyone settled in for a well deserved meal.

After dinner, many members decided to do some observing, both inside and out of the main observatory. This is an especially good time for members to set up their own telescopes and get assistance if needed, or just check out the stars through the many scopes provided. The usual objects were viewed, including the very popular Saturn, and the night finally wound up around 10.30pm. Hope to see you all again next time! (photos attached). *Warm regards, Phil Peters*




Viewing night for visitors from Sweden.

Recently, MPAS was approached with a request to visit our observatory to look at the stars. This is not unusual, as we get these enquiries all the time, but this one was different! Wendy from Mt Martha was having 2 friends over from Sweden, but their schedule didn't provide time for the usual stargazing night, even if we were to squeeze them in.

I was curious to know how Wendy knew about us. It turns out her Swedish friends had searched the internet for any stargazing opportunities before leaving for Australia, had found us online, and were very keen to visit. How could we refuse!

I contacted our observatory manager, Greg Walton, who was more than happy to accommodate them, but we only had a short window to work with, and the weather didn't look promising. So, we all agreed on Monday the 27th Oct, even though it looked a bit cloudy on the forecast.

Well, what do you know, it was perfect! On arrival Wendy and her friends admired the member's images in the main auditorium, before seeing the waxing crescent moon as it was still getting dark. Then off to the observatory, where Greg was ready with his large knowledge base of objects to show. Saturn was a favourite of course, but there were so many objects seen over the 2 hour visit I can't possibly list them all.

Our visitors left after many thanks, a very nice donation and some merchandise to go! I'd say we'll be talked about in Sweden for a while yet! *Kind regards, Phil Peters*

Albert Nagler passed away aged 90 years. 1935 - 2025

For amateur astronomers, the word Nagler means highest quality eyepieces.

For the older amateur astronomers amongst us, we would remember a time when there were very few choices when it came to eyepieces. Most having tiny bits of glass, which weren't easy keeping your eye in exactly the correct spot, so you could get the best view and more then often strained your patients.

Then Al Nagler reinvented the eyepieces for amateur astronomers. By using large chunks of glass, with very different designed optics. Most of us remember there first time looking through a Nagler eyepiece. It was like turning the lights on for the first time and no more strained your eyes. You can look around from side to side then up and down, thanks to the 84 degree field of view. Its was a wow moment and there was defiantly no going back to those tiny old eyepieces, and we must all thank him for that.

Al Nagler worked as an optical designer at Farrand Optical Company, were he had the chance to work on the Apollo program. He designed an optical system to help train the Apollo astronauts. This system enabled the astronauts to look out the window of the Lunar Excursion Module (LEM) simulator and be able to recognize the stars. It was made up of a black board with different size ball bearings attached to mark the position of the stars. The star Antares used a gold plated ball bearing. *See right*

After which he started Tele Vue, were he designs and built eyepieces and telescopes to the highest standard. Tele Vue eyepieces hold they value unlike most things these days. This is because, most amateurs astronomers wouldn't like to part with their Nagler's. We hope his family will continue to run the business and keep manufacturing these delightful range of eyepieces.

Right -

Nagler 31mm 2 inch eyepiece has a 84 degree field of view with sharp round stars all the way to the edge of the field of view. The 31mm Nagler is often nick named the Hand-Grenada.

OBSERVATORY UPDATE

By Greg Walton

The small domed observatory is up and running.

Last year, David Girling's family donated his small plastic domed observatory, SkyShed POD. Mark Hillen, Phil Peters and I dismantled the dome and transported it to the Briars.

At this moment the council will not permit us to lay any more concrete at the MPAS site. So we had to come up with a plan which didn't require laying concrete. This was why we decided to use pavers for the base.

Some months ago at a working bee, we built a treated pine frame 3 metres square, making sure that the top was level. Then we filled the frame with 4 cubic metres of 20mm B grade crushed rock. The leftover crushed rock we spread around the frame for added support. Then we had members stomped down the crushed rock, making sure it was about 50mm higher in the centre, so as to help shed water and hopefully stop any water working its way inside the dome. After some months of settling, we covered the crushed rock with builders plastic and laid 26 600mm square pavers, then we left it for a further 2 months to see if the whole structure would settle, which it did, ended up 15mm higher in the centre.

At the following working bees we washed the parts of the dome and assembled the 6 wall panels, which lock together with moulded pins and bolt. All 6 wall panels were numbered, so we made sure they were all in the correct place. Then we moved the assembled wall around on the pavers, to find the best location where the 12 mounting bolt holes didn't fall on any of the gaps between the pavers. We also had to take into consideration the side storage pod and position of the door. Then we measured the diameter in several locations to make sure the wall structure is round within 5mm. Once we were happy everything was correct, we drilled the 12 10mm holes through the pavers. Placing a washer over the holes and knocking in the Dynabolts as we went. We found we needed to add some packing between the wall and pavers in some places, using thin metal strips cut to length. Then we tightened the 12 Dynabolts, while Geoff freed up and oiled the 30 wheels which the dome rotated on. We found when pressure-cleaned the dome that the pockets the wheels sit in, filled up with water. This will be something we will need to keep an eye on.

Happy with our work so far, it came time to place the dome on top of the walls. The dome came in 2 parts, one sightly smaller then the other. This allows the smaller half dome to swing up inside the larger half of the dome. The 2 halves pivot on 2 long stainless 1/2 inch bolts. It took 3 people to lift each half of the dome and we quickly got them in place. While other members tapped the long stainless bolts through and tightened the nuts. Then we bolted on the 5 brackets with one wheel to the larger half of the dome. These brackets keep the whole dome centred and moving freely, and also stop the dome from lifting off in high wind. We tested the dome making sure it moved freely and that the smaller half of the dome lifted freely swing up inside the larger dome half.

To lock the dome shut, we found we needed to rotate the dome till a rectangle peg fell into a slot on the top of the wall. Then it was just a case of threading in a bolt with a large knob to lock the dome.

We left the dome for a further 2 months, to see if the whole structure settled further. Luckily it was all good, the pavers felt stable and the dome still opened and rotated freely.

Time to make a pier the suits the dome. I found in my shed a piece of 90mm square steel tube with a 20mm thick base plate already attached. I also found some scrap 10mm-thick plate steel and drilled the holes to suit HEQ5 and EQ6 GoTo mounts, just in case we upgrade to the bigger mount in the future. Then I welded all the parts together and gave it a quick coat of white paint.

Then it was time to install the pier and a second-hand donated HEQ5 GoTo equatorial mount. Ideally it would be best to set the pier in the centre of the dome, giving good access around the telescope. The only problem with putting the telescope in the centre of the dome is that you cannot see or image the part of the sky directly overhead, due to the design of the dome. So there were 2 options, mount in the centre or off to one side. I decided to go with the centre mounting option, mainly because we could use longer or bigger telescopes. And as for not being able to see or image objects directly overhead, we just need to wait for the objects to be in a different part of the sky. Also the number of pavers, 5 by 5, meant there was a paver in the centre of the dome, which I could bolt the pier to.

The next thing to consider was the orientation of the pier. It needed to be roughly aligned to the south, keeping in mind that the observatory was not exactly north south aligned. Then I drilled the 4 10mm holes and Dinabolted the pier to the centre paver. To anchor the paver to the ground I drilled 4 16mm holes through the paver near the corners and hammered through 4 12mm-diameter steel pegs 750mm long, with a piece of rubber under the head of each peg. The rubber was to reduce the risk of cracking the paver while hammering in the pegs. Over time the pegs will rust, further locking the centre paver in place. Also as people walk around inside the dome, they're less likely to stand on the centre paver, which could shake the telescope.

Electricity. There is a 10-metre power cord that plugs into the pod on the back of the dome. This cord has a 15-amp socket on one end of the lead, to suit the power point on the dome. The other end of the cable has a 10-amp plug to suit the power point on the post. Once connected, the power point inside the dome becomes live and a red light should be on.

We added a shelf to the side pod as a handy place to setup a computer or store eyepieces and cameras. We also fitted a padlock, keyed the same as the Sirius dome.

Next I installed the second-hand donated HEQ5 GoTo equatorial mount and 100mm short tube refractor. This refractor works remarkable well giving excellent wide-angle viewing of deep sky objects. We will most likely also use this mount for solar viewing with the Society's solar telescope. As the solar scope and 100m refractor are about the same weight, we could just swap the scopes, without moving the counter weight. In the future we will acquire a twin dovetail adapter, so we can mount 2 telescopes on the HEQ5. This would also mean we could run a white light solar filter on the 100mm refractor.

We found that the tree to the south blocked the view through the polar scope. We only needed to remove one small branch to fix this and were able to polar align the mount. We also had to set up a screen in amongst the trees, to block light from the neighbouring camp. This could be an ongoing problem and will probably need adding more screens. Other than that, the SkyShed POD will be a great asset, which we will keep upgraded over time. At the October working bee, Dave Girling's daughter and grandson dropped in to see the assembled dome. We also showed them around the other observatories and buildings. She was very impressed with everything and talked about the times she came to MPAS with her father. On behalf of the MPAS committee and members, we wish to thank Dave's family for the dome.

SkyShed POD observatory - https://skyshedpod.com/

WHAT'S ON

The 2025 Timetable of Public Events.

NOVEMBER
Wednesday 5th, 7:30pm Briars. St. Michael's Primary. 41 Year 4 pupils. Speaker Katherine McCoy & Peter Skilton.
Friday 7th, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 4 booked, 90 anticipated.
Friday 14th, 8pm Briars. Public Indigenous Astronomy stargazing night. Speaker Tim Patston. 47 booked.
Bookings at www.trybooking.com/DFYMC. Members free.

DECEMBER
Friday 5th, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 4 booked, 90 anticipated.
Saturday 6th, 7:30pm Briars. Christmas Concert with Southern Peninsula Concert Band. MC Peter Skilton. www.trybooking.com/CMZXJ

The 2026 Timetable of Public Events.

JANUARY
Friday 2nd, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 44 booked, 90 anticipated.
Saturday 3rd, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet opened.
Friday 9th, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 90 anticipated. Bookings not yet opened.
Friday 16th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet opened.

FEBRUARY
Friday 6th, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 90 anticipated. Bookings not yet opened.
Tuesday 24th, 8pm Briars. Rye Beach Probus Club. Speaker TBD. 35 anticipated.

To attend the school events and scout/girl guide events, these days you need to have a Working With Children check done first. It takes about a fortnight from the time you apply online to when you get the card in the mail. For volunteers it is free. It's essentially a check of police and justice records over the decades that sees if there might be anything in the past that would preclude participating in these sorts of outreach events involving kids. Once you receive your card, let the Secretary know your card number and expiry details as we are required as an organisation to record them.

https://www.workingwithchildren.vic.gov.au/ *Regards, Peter Skilton*

New Members Welcome

Songlin Mao
Ray Flanagan
David Galloway
Karoline Hohlweg and family
Fabiola Ceruti
Rosie Kirsty and family
Chris Ansell
Angela Goile and family
Jennifer Quinlan & Jack Wines

MPAS SUBSCRIPTIONS 2025

Each ticking over of the New Year also means that Society fees are due to be paid. The committee has worked hard to ensure that 2025 fees are still the same as the previous many years' prices. So to assist the society in maintaining the facilities and services we provide and share, we appreciate your prompt payment for each and every year ahead.
As a reminder, the following structure of the 2025 fees is:

SOCIETY FEES

$50 – Full Member
$45 – Pensioner Member
$65 – Family Membership
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Subscriptions can be paid in a number of ways:
- **On-line (preferred, see at right)**
- **Cash payments to a committee member**
- **Send a cheque, made out to "Mornington Peninsula Astronomical Society", to MPAS, The Briars, 450 Nepean Highway, Mount Martha VIC 3934 (The P.O. Box in Frankston is no longer used).**
- **Make a direct electronic payment into the society working bank account (state your name clearly).**

The account details are BSB 033-272 Account 162207. Remember to add your name and details to the transfer so we can identify the payment in the bank records. If you have any concerns please talk to a committee member.

JOIN NOW

You can renew your membership online using the link included in the annual mailout email, which is sent near the end of each year. Please ensure to renew before Feb 1. Any late renewals may be required to re-join as a new membership.

CALENDAR November / 2025

Red Days indicate School Holidays

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30						1
2 **Saturn above the Moon**	3	4 **Melbourne Cup**	5 **Full Moon** **Super Moon**	6	7 **Public night 8pm** **Vesta near NGC6401**	8
9 **Moon at 356,833km**	10 **Comet 24P near M44**	11 **Jupiter above a dawn Moon** **Remembrance Day**	12 **Last Quarter** **Mercury near M80**	13 **Mars and Mercury close**	14	15
16	17	18 **Leonids meteor shower**	19 **Society Meeting 8pm**	20 **New Moon** **Moon at 406,691km**	21 **Mars right of a thin crescent Moon** **Uranus at opposition**	22 **Working Bee 4pm** **BBQ 6pm** **Comet 24P near NGC2905**
23	24	25	26	27 **Vesta near M28**	28 **First Quarter**	29 **1:45pm Cosmology** **Saturn above Moon**

Events

Public night - 8pm to 10pm on the 4th @ The Briars
Society Meeting - 8pm to 10pm on the 19th @ The Briars (Public & members)
Working bee - 4pm **Members night BBQ** - 6pm on the 22nd @ The Briars
Cosmology group meeting - 1:45pm to 4pm on the 29th @ The Briars
Watch your emails, as on any clear nights the Observatory may be opened for members-only viewing.

CALENDAR December / 2025

Red Days indicate School Holidays

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4 **Moon at 356,963km**	**Full Moon** 5 **Super Moon** **Public night 8pm**	6 **SPCB** **Xmas Concert**
7 **Jupiter above Moon**	8	9	10	11	12 **Last Quarter**	13 **Xmas BBQ 6pm** **Comet 24P near NGC3607**
14 **Comet 24P near NGC3626** **Geminids meteor shower peak dawn**	15	16	17 **Moon at 406,322km**	18	19	**20** **New Moon**
21 **Scorpius Deadline**	**22** **Summer Solstice**	**23**	**24** **Shadow transit**	**25** **Xmas Day** **Comet 24P near M98**	**26** **Boxing Day** **Comet 24P near M99**	**27** **Saturn left of Moon** **Comet 24P near M100**
28 **First Quarter**	**29**	**30** **Comet 24P near M91**	**31** **New Years Eve**			

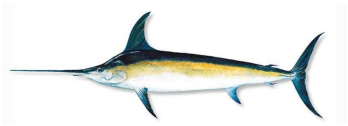
Events

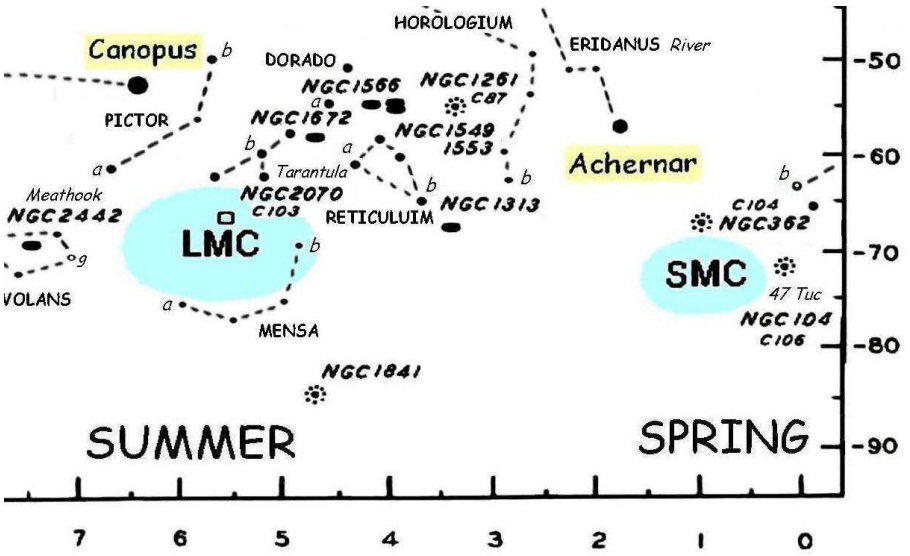
Southern Comets website - http://members.westnet.com.au/mmatti/sc.htm
Public night - 8pm to 10pm on the 5th @ The Briars
Southern Peninsula Concert Band Christmas - 6pm to 10pm on the 6th @ The Briars
Christmas BBQ - 6pm on the 13th @ The Briars

THE BRIARS SKY

By Greg Walton

Dorado the swordfish or dolphin fish is a constellation in the southern sky between the bright stars Canopus and Achernar. Dorado also means gold in the Spanish language and dolphin fish in Portuguese. If you have ever seen a freshly caught dolphin fish, it has a brilliant gold colour underside. This is probably were the Dorado (gold) comes from. I found in some drawings the tail of the swordfish is near the Large Magellanic Cloud while others it's the other way around with the head near the Large Magellanic Cloud.





Google search - Dorado was named by Dutch astronomer Petrus Plancius, who based it on observations made by Dutch navigators Pieter Dirkszoon Keyser and Fredrick de Houtman in the late 16th century. The name, meaning "the dolphin fish" in Portuguese, first appeared on a celestial globe published by Plancius in 1597 or 1598 and was later included in Johann Bayer's influential star atlas in 1603.

Dorado contains half of the Large Magellanic Cloud, while the remainder half being in the constellation Mensa. From the Briars in the evening during spring, the Large Magellanic Cloud is rising in the south southeast with Dorado sitting directly above. On a moonless night, you can easily see the row of stars which make up Dorado. The stars have a simular brightness and are almost in a straight line.

The most well known object in Dorado is the Tarantula Nebula NGC2070 which is the third brightest nebula in the sky. You should take the time to slew your telescope around NGC2070 as there are plenty more nebulas to be seen. *See right*

Dorado contains about 30 galaxies. If you image one galaxy, you usually find you have accidently imaged some other galaxies, especially if you are imaging with a short focal length refractor or camera lens with a DSLR camera.


NGC2070 LMDSS 12" Newton CC1 EQ6 Pentax K30 61x30sec iso12800 By Greg Walton MPAS/ASV 19feb15

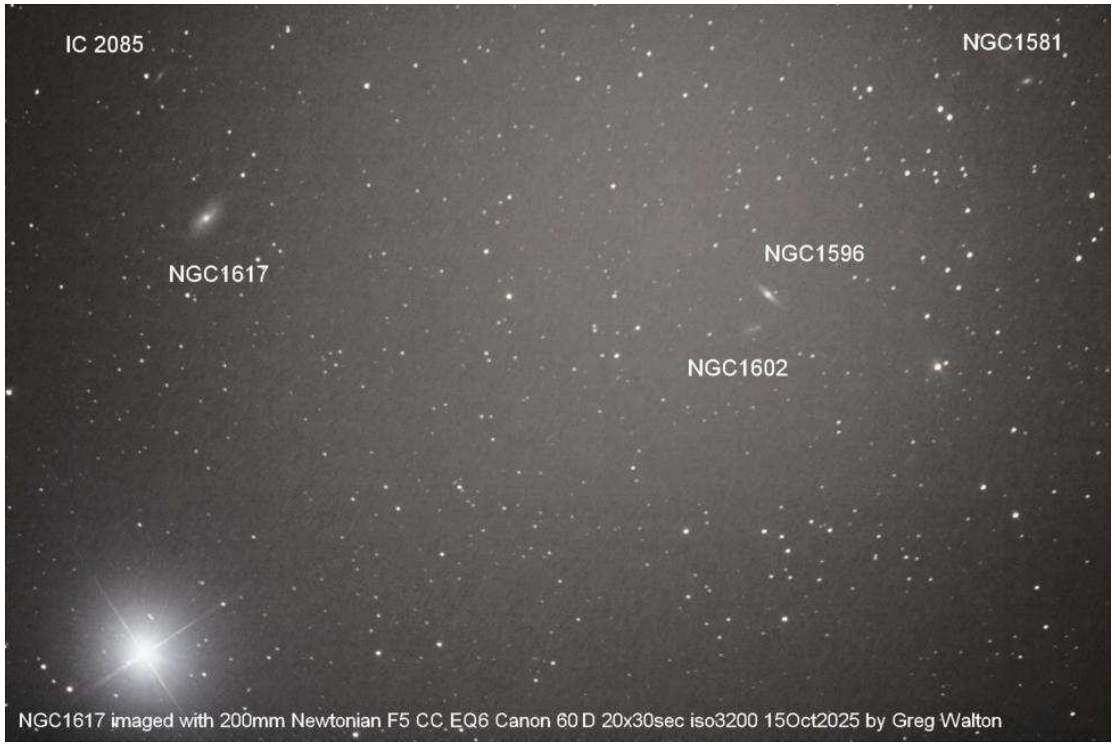
There are many galaxies in Dorado, the most viewed or imaged being 9.7 magnitude NGC1566 which is a bright face-on spiral near the brightest star in Dorado (A Doradus). Only about a degree away from NGC1566 is a pair of elliptical galaxies NGC1549 at 9.8 magnitude and NGC1553 at 9.4 magnitude; with a telescope with a focal length of one metre or less, you can capture all 3 galaxies. *See below.*


NGC1566 Briars 350mm Meade F10 with 0.7 focal reductor EQ8 Pentax K30 58x30sec iso12800 By Greg Walton MPAS 10Jan18

NGC1566 Briars 8" Newton AG CC1 EQ6 Pentax Kr 44x30sec iso25600 By Greg Walton MPAS/ASV 28jan12

Near to the brightest star in Dorado (Alpha Doradus) is a 10.4 magnitude galaxy NGC1617, which makes it very easy to find with a large Dobsonian and a worthy target for astrophotographers.

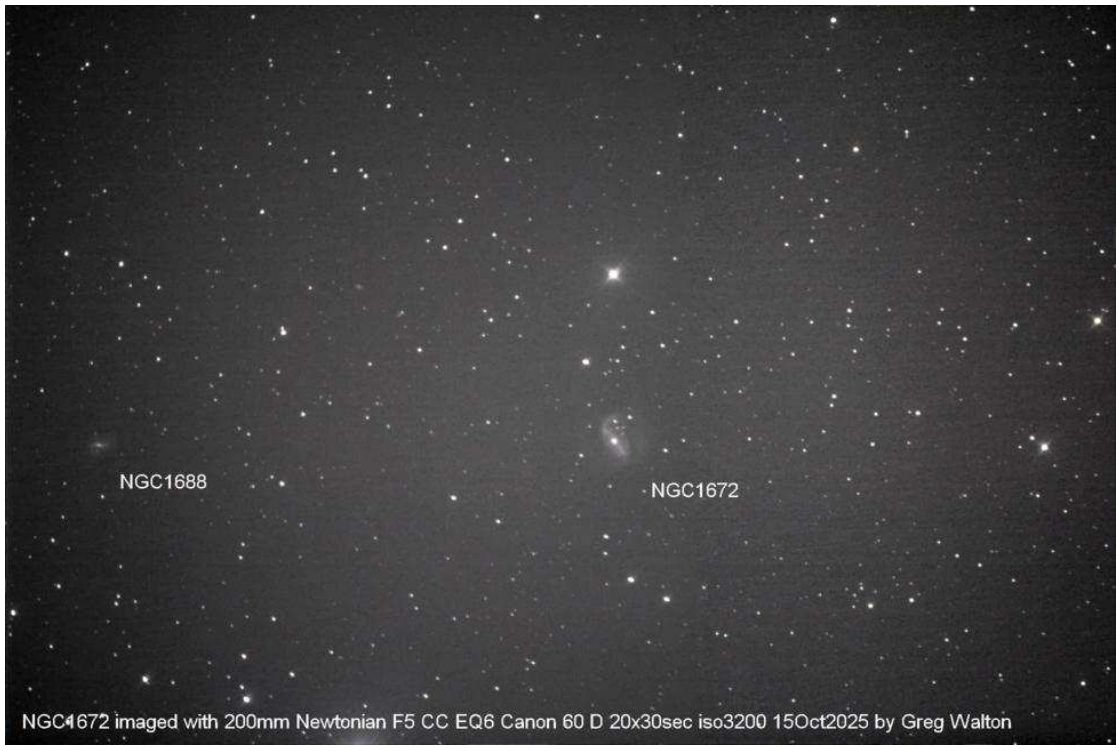
Half way between NGC1566 and NGC1617 is a close pair of 11.2 magnitude edge-on galaxies NGC1596 and smaller NGC1602. To view them you will need a large telescope at a dark location or imaged with a smaller telescope. A telescope with a one-metre focal length with a DSLR camera would capture NGC1617 with NGC1596 and NGC1602. You could also capture NGC1581 and IC2085, as I have done using the 8-inch Newtonian in the MPAS observatory. *See right*



NGC1617 imaged with 200mm Newtonian F5 CC EQ6 Canon 60 D 20x30sec iso3200 15Oct2025 by Greg Walton

A galaxy which is often overlooked is the 9.7 magnitude NGC1672 which is a barred spiral with an interesting shape. With a large telescope in a dark sky location this galaxy looks a bit like an eye spying back at us, from a distance of 50 million light years.

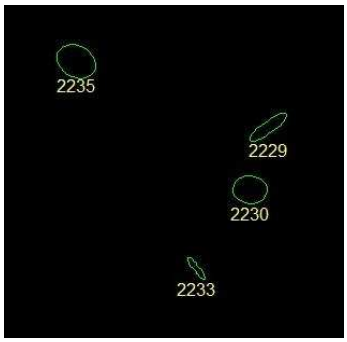
Only 1/2 a degree from NGC1672 is a another smaller barred spiral NGC1688 at only 12th magnitude, making it a challenging object to see from the Briars, but can still be captured with an 8-inch Newtonian in the MPAS observatory. *See right.*



NGC1672 imaged with 200mm Newtonian F5 CC EQ6 Canon 60 D 20x30sec iso3200 15Oct2025 by Greg Walton

Challenge - We don't often think of the LMC as an area to find galaxies.

Still in Dorado near the LMC is a patch of sky which contains a large number of faint galaxies. Almost impossible to see in a telescope, this group of 13th magnitude galaxies are surprisingly easy to image. In an area of sky only 1/2 a degree across you can capture more then a dozen galaxies. NGC2235 and NGC2230 are only 1/6th of a degree apart.



See right - Image and chart, produced on Sky Map software.

This is the prefect time of year to image this group and I hope to see your images soon.

ASTRO NEWS

By Nerida Langcake

Mornington Peninsula Astronomical Society

Charred piece of rocket found still smouldering in the Australian outback

A hefty chunk of blackened material recently found smouldering in the Australian outback is likely part of a secretive Chinese rocket, experts claim. The charred debris likely crash-landed shortly after failing to completely burn up upon re-entry to Earth's atmosphere.

Local miners discovered the smoking wreckage, which measures around 1.5 metres across, at around 2 pm local time on Saturday Oct. 18, roughly 30 kilometres from the town of Newman in the Pilbara region of Western Australia.

Local police quickly identified the object as potential space debris after ruling out the possibility that it had fallen from an aircraft. The Australian Space Agency was then called to recover the wreckage for further testing but was unable to identify the debris immediately.

Marco Langbroek, an aerospace engineering analyst at the Delft Technical University in the Netherlands who tracks the trajectories of orbiting spacecraft, was the first to identify the likely origin of the debris as the upper stage of one of China's Jielong 3 rockets, which deorbited shortly before the discovery, according Space.com.

This theory was later backed up by other experts, including Jonathan McDowell, an astronomer at the Harvard & Smithsonian Center for Astrophysics who has been tracking space debris re-entries for more than 35 years. It is currently unclear when this rocket was initially launched into space

Experts are unsure exactly which part of the 31m rocket was found near Newman, due to its extensive damage and uncertainty around the spacecraft's design, which results from the high secrecy surrounding China's entire space program, including their rocket designs, space plane, moon missions and satellite constellations.

However, it appears to be largely composed of carbon fibre, according to Space.com. The most likely scenarios, therefore, are that it is either a composite overwrapped pressure vessel (COPV), which contains high-pressure gases and liquids inside rockets, or the mangled remains of the entire upper stage.

Based on its size and landing spot, Langbroek also estimates that the surviving chunk of the rocket weighs a hefty 300 kilograms. This could be further proof that the rocket is powered by an experimental solid-fuel source, as solid fuel is heavier than traditional liquid rocket fuel, he added.

But one of the biggest surprises about this incident is that the wreckage was still partially burning when it was found, which is highly unusual. This is likely the sign of a "very recent impact," Langbroek wrote in a blog post.

YOUR ASTRO QUESTIONS

What are astronomical grid systems? *By Greg Walton*

While playing around with Stellarium sky chart software, I saw that there were 4 simular looking grid icons at the bottom of the screen. Equatorial, Azimuth, Galactic & Ecliptic.

Equatorial and Azimuth are easy to understand. These are the 2 we use every time we set up our telescopes.

If you own a telescope with an equatorial mount, then you can use the Equatorial grid system to find stars or deep sky objects, as long as the equatorial axis is polar aligned. *Far right.*

If you own a Dobsonian telescope, AZ Meade or Celestron then your telescope has an Azimuth mount. You can use an Azimuth grid system to find stars or deep sky objects.

When we are using our telescopes, we don't use Galactic or Ecliptic grid systems.



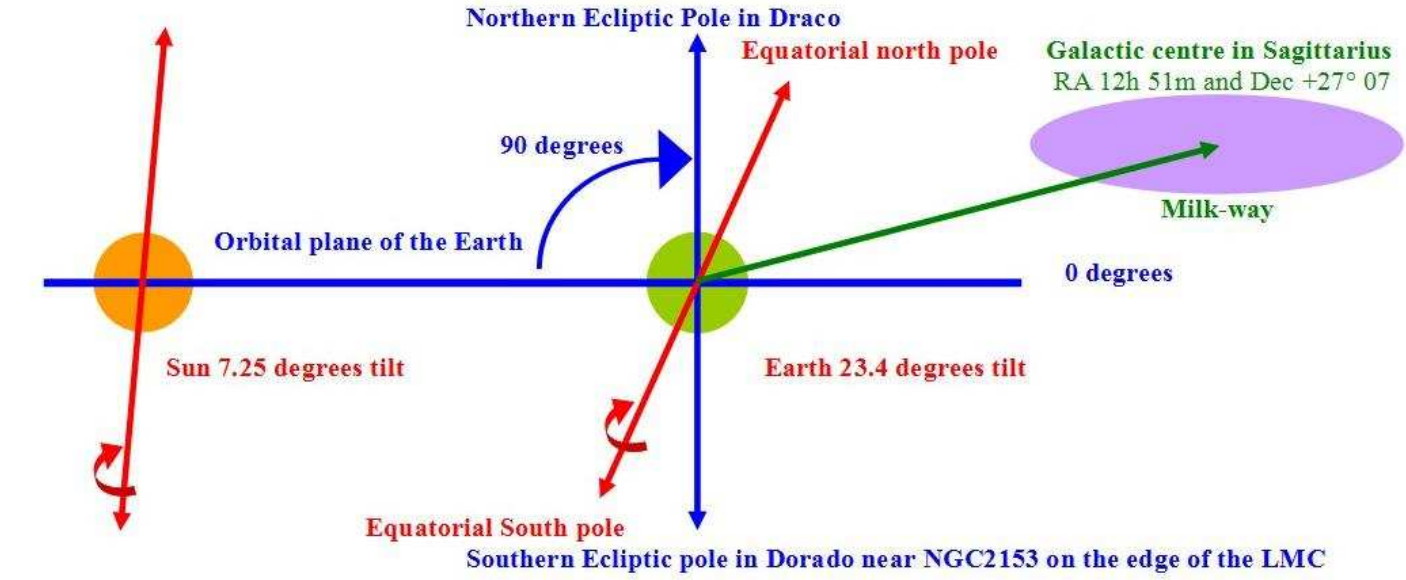
So what are the differences between Equatorial, Azimuth, Galactic & Ecliptic grid systems on Stellarium?

The Equatorial grid systems are linked to the Earth's polar axis, with **Declination** at the Celestial Equator = 0 deg., North polar = +90 deg's and South polar = -90 deg's. **Right Ascension** (RA) is divided into 24 hours, with 0 passing through the Vernal (March) Equinox.

The Azimuth grid system is linked to the your local horizon, **Azimuth** where due North = 0 deg, East = 90 deg's, South = 180 deg's, West = 270 deg's while **Altitude** at the horizon = 0 deg. and directly overhead is +90 deg's. These coordinates for an object are not permanent and are constantly changing as the Earth rotates, so need to be recalculated every time you move to a new object. Stellarium uses the fixed equatorial coordinate to converted into azimuth coordinate by using your location and local time.

The Galactic grid system is linked to the plane of the Milky Way galaxy, where all measurements are taken from the centre of the Milky Way galaxy, which is in Sagittarius at Right Ascension 12h 51m and Declination +27° 07′ using the equatorial grid system. The galactic equator is divided into galactic longitudes to 360°, northern latitudes to +90°, and southern latitudes to -90° at the south galactic pole.

We know the ecliptic is the path the Sun and planets arc across the sky. The Ecliptic grid system is linked to the Earth's orbital plane with the ecliptic latitude of 0 deg's, from which the Earth tilts 23.4 deg's. Northern Ecliptic Pole is +90 deg's to this and is in the constellation of Draco. The Southern Ecliptic pole is -90 deg's and is in the constellation of Dorado, very near NGC2153 on the edge of the Large Magellanic Cloud. Next time when you are out in a dark sky and can see the LMC, you can try to imagine the relationship of the orbit of the Earth spinning round the Sun. The Ecliptic grid system is used to locate celestial objects within our solar system and often used to work out when and where solar eclipses occur and when and where transits of Venus and Mercury occur.



2025 holiday to Tasmania - *John Cleverdon*

My brother and I did a 3-week road trip holiday to Tasmania in February, with the main intention being to visit several tourist railways and railway museums. This was the first visit to the Apple Isle for both of us.
However, it also provided an opportunity to visit a few places of astronomical interest, as described below. There wasn't enough room to include my telescope, so the only viewing done was through a solar telescope at the Mount Pleasant facility.
More photos from the holiday can be found at: https://www.flickr.com/photos/john_cleverdon/albums in the '2025' album.
As it turned out, the weather around the state was almost as fickle as Melbourne's weather; ranging from bushfires and their smoke, to low cloud & rain (ruining some lookout views), to heatwaves and heavy rain getting close to light snow.
We covered close to 5000 kilometres within Tasmania while on the holiday.

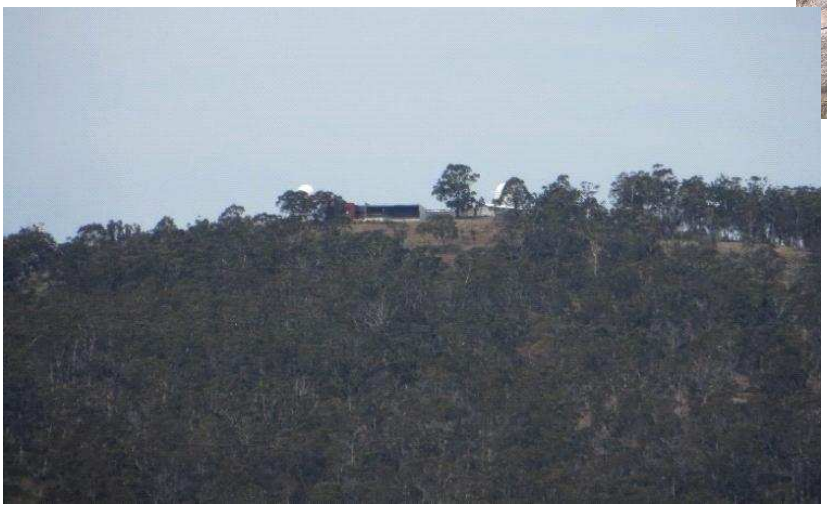
Woolmers Estate
Woolmers is one of two 19th century World Heritage-listed former convict sites near the town of Longford (we didn't have time to view the other at Brickendon).
While wandering around the large estate, I noted a sundial, and this is estimated to date from the 1930's.
https://www.woolmers.com.au/

Launceston memorial
The book *Under the Southern Cross: A Brief History of Astronomy in Australia* (1991) mentioned a former observatory at Launceston, used by amateur astronomer Alfred Biggs around the 1870's – 1880's. There is a memorial for this, set up by the Royal Society of Tasmania, on a path in Royal Park.

Launceston Planetarium
The planetarium at Launceston is part of the larger Queen Victoria Museum in the former railway workshops at Inveresk. Peter Skilton had an article in the July-August 1998 Scorpius about this. There are also (more recent) displays at the planetarium on both astronomy in general and astronomy in Tasmania.
https://www.qvmag.tas.gov.au/Planetarium

York Creek Observatory, George Town
At Launceston Planetarium, I got chatting with the presenter, and when I mentioned MPAS, it turned out he was a member of the Astronomical Society of Tasmania. He lived at George Town and had a backyard observatory (two separate domes), with the largest telescope there being 250mm. As we were going up that area the next day, I got his contact details, and having spare time, we dropped by for a visit. It turned out that he was an attendee at the 2006 NACAA conference that MPAS hosted in Frankston. https://www.astro.yorkcreek.net/

Campbell Town museum and sundial
When visiting the museum at Campbell Town, there was a display on the 1874 transit of Venus, which was observed from here by Alfred Biggs (see above) along with a group from the United States Naval Observatory. The 2004 transit of Venus was observed from here as well. The museum also has some other astronomy displays.
In a park not far from the museum, there is a sundial with a more fancy design, looking a bit like a piece of farm equipment.
https://www.discovertasmania.com.au/things-to-do/heritage-and-history/campbelltownmuseumandvisitorinformationcentre/



Greenhill observatory
In the Bisdee Tier hills, not far south of Jericho, is the Greenhill Observatory. This is more recent, only opened in 2013, and is a dark-sky site by the University of Tasmania to replace the Mount Canopus Observatory (see below). The largest telescope is 1.27m.
There isn't any public access to this, so with the help of Google Earth and topographic maps, I was able to find a couple of locations from roads on either side of the range to get photos with maximum zoom on my camera.

https://www.utas.edu.au/natural-sciences/physics/greenhill-observatory

Runnymede House, New Town
Runnymede, a historic house from around 1840 in Hobart's inner suburbs, also had a sundial (although I don't know the age of the sundial).
https://www.nationaltrust.org.au/places/runnymede-4/

Hobart Botanic Gardens
Within the grounds of Government House at Hobart was Rossbank Observatory, which dated from the mid-19th century (also mentioned in the book *Under the Southern Cross: A Brief History of Astronomy in Australia*). When taking a brief visit to the Botanic Gardens on the northern side, I had a look but couldn't see any obvious remains. https://gardens.tas.gov.au/

Mount Pleasant – Grote Reber Museum and Radio Observatory
The Grote Reber museum is about radio astronomy and Reber, who was a pioneer of radio astronomy in the 1930's in the USA, before moving to Tasmania in the 1950's.
It is also a radio astronomy facility with a 26m radio telescope (previously at Orroral in the ACT, which I visited on last year's holiday) as well as a 12m radio telescope. The tour includes a look at the control room for the facility.
https://www.utas.edu.au/community-and-partners/community-programs/mt-pleasant-observatory-grote-reber-museum

AST Observatory

Also at Mount Pleasant is the Observatory for the Astronomical Society of Tasmania, which includes telescopes up to 12 inches in size. As there weren't any events there while I was on holiday, I was only able to get a photo from the outside. There are three buildings, a shipping container and power supply, along with observing pads; but it's definitely smaller than the MPAS facilities at the Briars. The AST's meetings are held at Rosny library in Hobart and most of their public nights are away from Mount Pleasant, so it doesn't get as much use as the Briars. AST also have a northern group. https://www.astas.org.au/

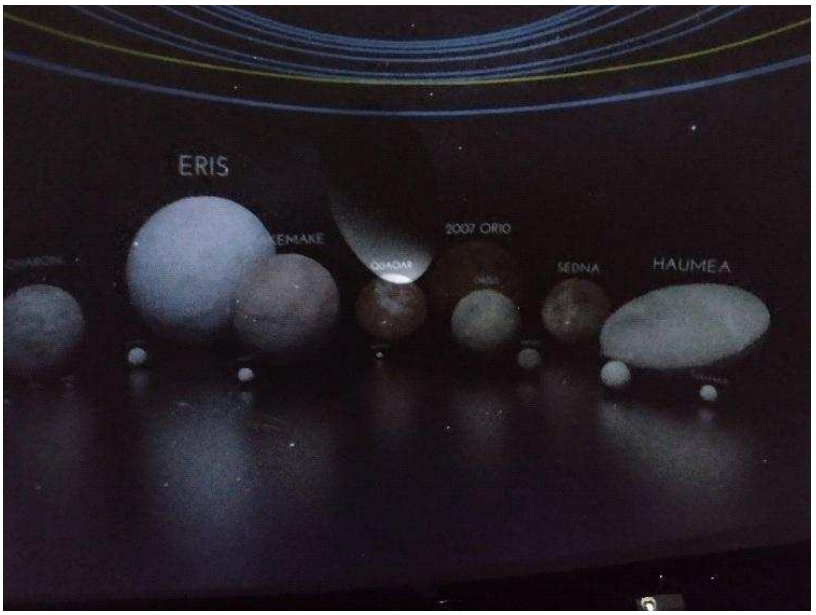
Mount Canopus observatory

This is the former University of Tasmania observatory until light pollution saw the move to Bisdee Tier (see above). It was also used by the Astronomical Society of Tasmania (with a 16-inch telescope) prior to the move to Mount Pleasant in 2015.
https://www.phys.utas.edu.au/physics/Mount%20Canopus%20Observatory.html

Waddamanna Power Station

While visiting the Waddamanna Power station (one of the earliest hydroelectric power stations in Tasmania and now an impressive museum), I got chatting with the tour guide. When I mentioned my astronomy interest, he commented that Professor Alexander McAulay from the University of Tasmania had a property near the former Shannon power station (in the early 20th century) and did stargazing from there. https://www.hydro.com.au/things-to-do/waddamana-heritage-site

Ulverstone Planetarium



I didn't find out about this planetarium (part of The Hive centre at Ulverstone) until sailing south on the *Spirit of Tasmania* or at Devonport on the first day. As well as the planetarium, there is also a science centre, history museum and other features at the Hive.
The astronomer there is Martin George, who used to be at the Launceston planetarium from Peter Skilton's 1998 Scorpius article.
https://www.hivetasmania.com.au/planetarium/

MEMBERS GALLERY

Right -

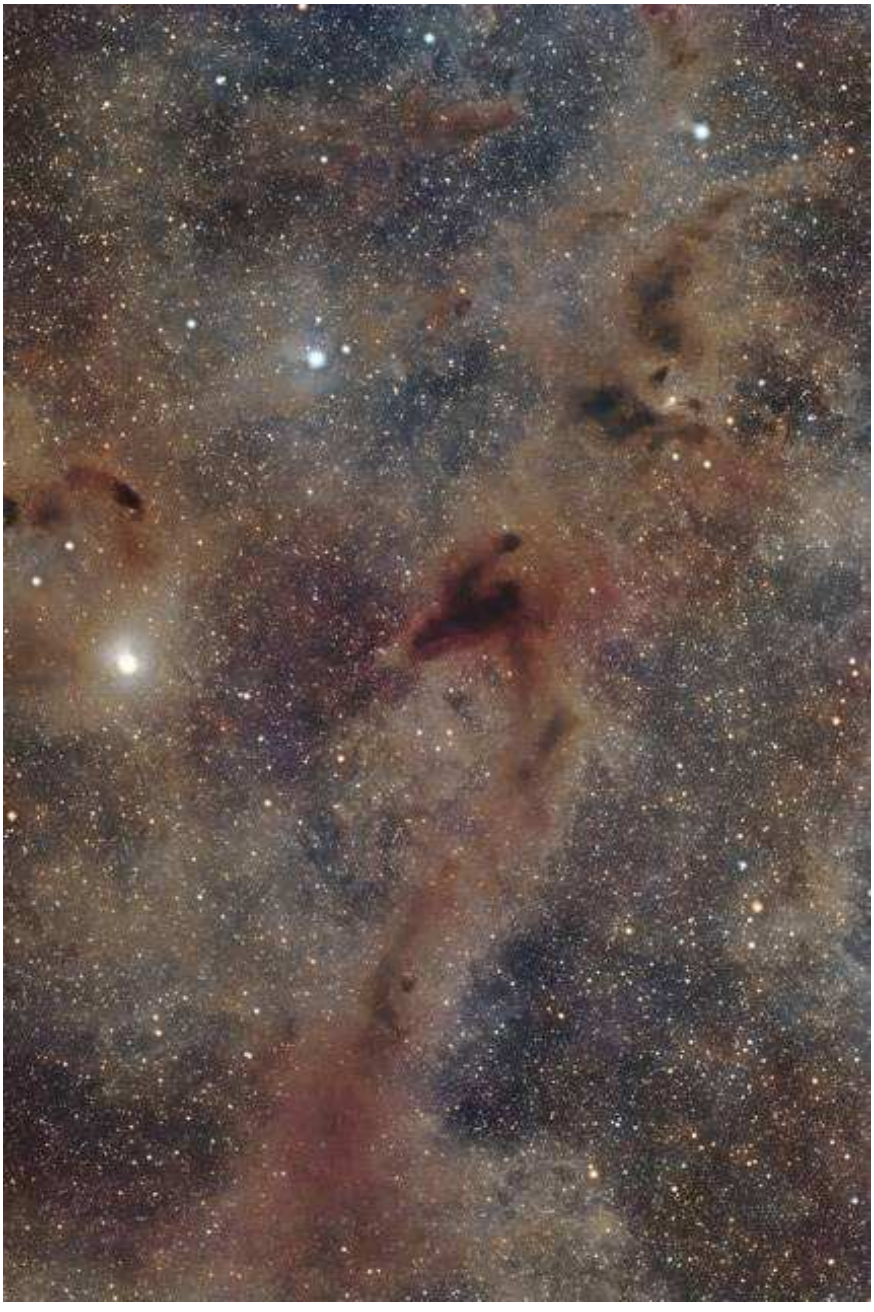
Saturn. 19/10/2025.
After imaging the comet at the members BBQ on Saturday, I went home and set up to have a go at Saturn.
200mm Newtonian.
5x Televue Powermate.
ASI294 MC Pro.
SharpCap for video capture.
PIPP for frame stabilisation
Autostakkert for stacking
Best 10% of 2600 frames used.
Siril for processing and wavelet sharpening.

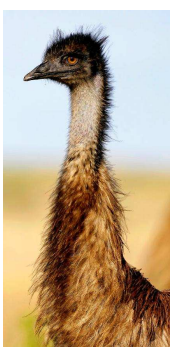
By Chris Kostokanellis

Right -

Hi Everyone.
Earlier this year, I took a bunch of data on this object using both the L-Extreme Ha/OIII filter and the Antila Triband Filter.
155 min of 5 min Subs (Triband Filter)
445 min of 5 min Subs (L-Extreme Filter)
430 min of 10 Min Subs (Triband Filter)
210 min of 10 min subs (L-Extreme Filter)
That's a lot of time!
The 10 min subs on the Antila filter were a mistake because they blew out the bright stars and the nebula around them, but if I exclude them the rest of the nebula suffers, so I just include them.
Next year I'll just shoot more 5 min subs.
This is a real difficult object, needing dark skies (which I don't have) and a lot of time, and better processing skills than I have.
But it's a start.
I posted this earlier this year, but reprocessed it with new calibration frames which have given a much better result.
All tips / critique / advice welcome.
80mm Sharpstar CF80 with 0.8 Flattener / Reducer (400mm FL)
ASI 294 MC Pro
AZEQ6
DSS to stack the individual file groups, and then combined them in Siril.
Processed in Siril 1.4.0 Beta 3

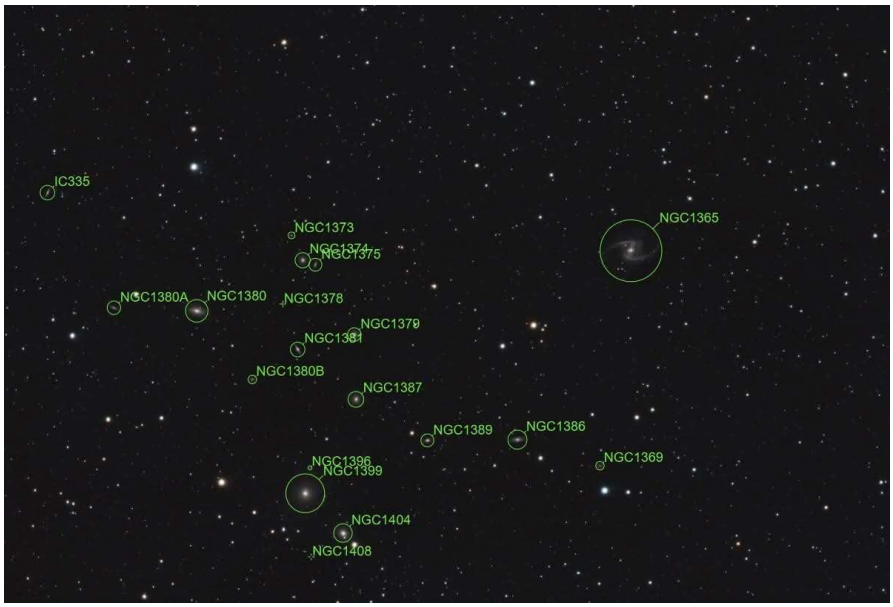
Regards Chris Kostokanellis





Sorry Chris, I turned Chris's image 90 degrees and now it looks a lot like an emu.

Regards Greg Walton



Above -

I imaged the area around NGC1365, the Fornax Propeller Galaxy, on the 20/8/2025 with my 80mm refractor to see how many galaxies I could capture. 19 of the brightest ones are noted here.
This area is on the border of the constellations Fornax and Eridanus.
22 x 5 min exposures = 110 minutes total.

By Chris Kostokanellis

Left - C/2024 R2 SWAN
Imaged at MPAS using the 200 mm Newtonian.
80 x 30 Sec frames.
No tail in the comet to speak of, but it was quite bright, and easily visible in the 127mm Refractor and even more so in the 14" Meade, although I didn't see any colour visually.
The green is caused by diatomic carbon in the gases surrounding the comet being ionised by UV light from the sun.

By Chris Kostokanellis

Right -

Small Magellanic Cloud.
Imaged on 20th August from the back yard.
30 x 5 Min, 80mm Refractor, ASI294 MC Pro camera, Antila Triband Filter.
DSS and Siril for processing.

By Chris Kostokanellis

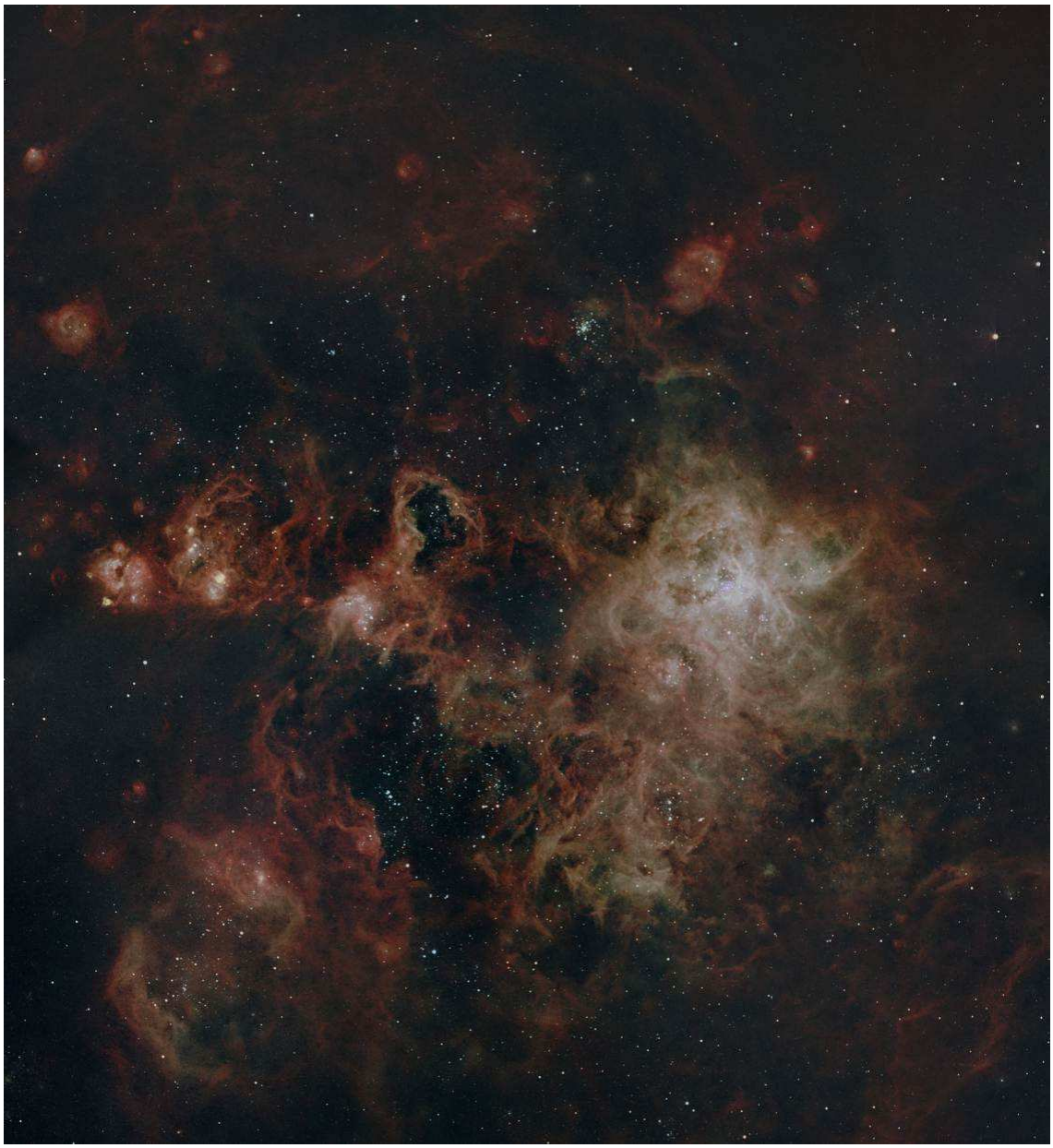
Right –

NGC 2070.

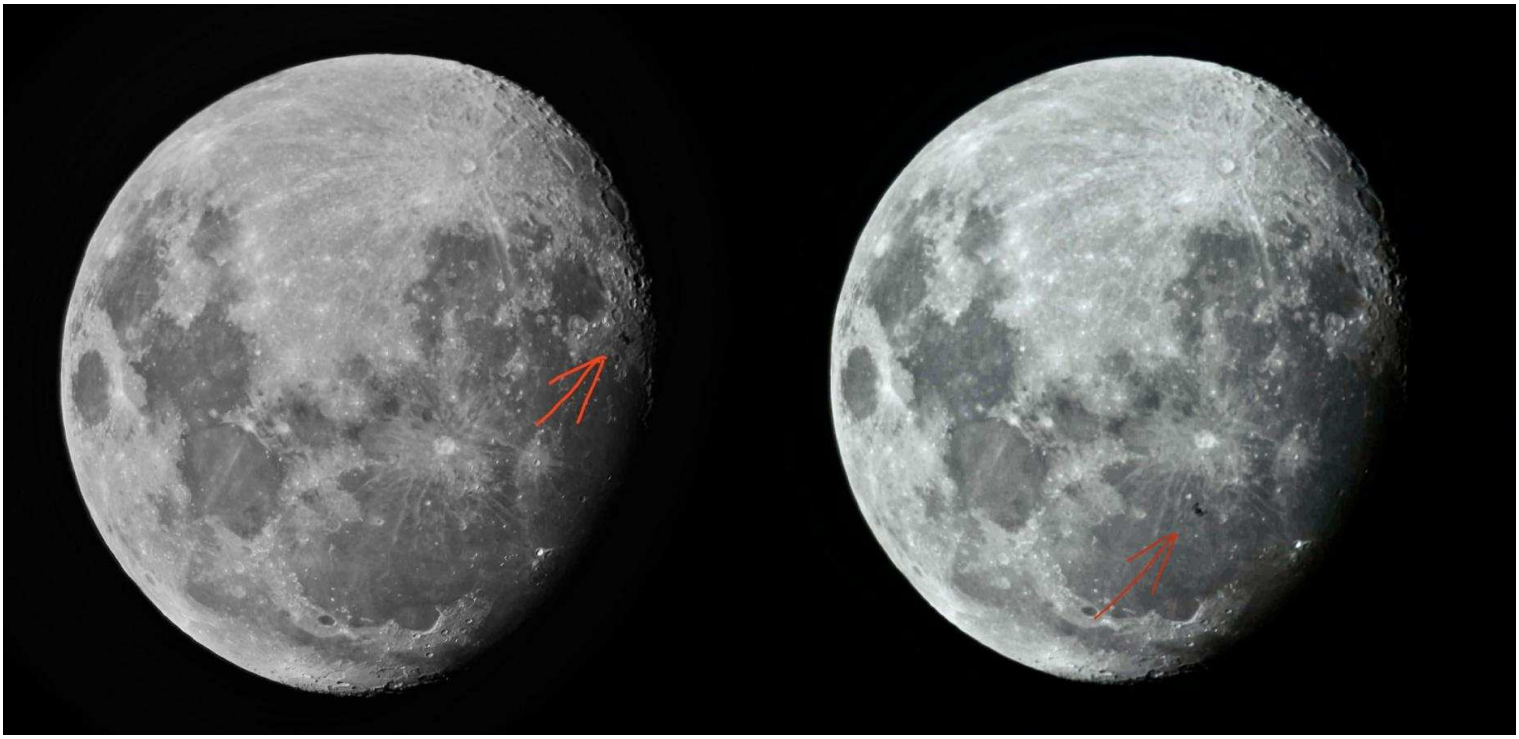
The Tarantula Nebula.
Spooky Astro for Halloween week.

This is a 2 panel mosaic using my 200mm Newtonian and ASI294MC Pro. 21 x 5 min = 105 Min total, per panel.
Imaged on 14/10/2025
Stacked in DSS.
Panels combined and processed in Siril.

By Chris Kostokanellis



ISS flyby. From Dromana 4th October 10:10pm, *by Liam Laube*



Below - NGC55 from the backyard last night.
RGB only in bright city skies – 1 hour each colour.
Vixen VC200L + ZWO2600mm Duo.
PixInsight / Topaz Studio.
This is the full frame size (no cropping).
I can count about 20 smaller galaxies around it. *By Dave Rolfe*

Right - cover image

I haven't shared a starry night shot for a while, so here is an image from last night of the Lagoon Nebula M8 at 5.8 light years away in Sagittarius. Taken with my S50, 60mins of 20s exposures.

By Dennis Cooke

Below - First time target for me, the Prawn Nebula or IC 4628 is an emission nebula located in the Sagittarius Arm of the Milky Way, around 6,000 light-years from Earth.
Taken over 2 nights with the TS-Optics 130 APO
ZWO294MC Pro Camera.
ZWO ASIair
4.5 hours of imaging of 5 minute subs with the Askar D2 SO2 filter and 4 hours of 5 minute subs with the Optolong L-Ultimate. (As it is late in the season it gets behind the trees so I can only do 4 hours a night.)
SHO image stacked and channel separated in Astro Pixel Processor then used PixInsight to combine the colours and process everything together. Finally finished in Photoshop
By Nik Axaris

Right -

SMC in SHO
130 APO Askar D2 and Optolong L-Ultimate filters
ZWO 294MC Pro OSC camera

By Nik Axaris

MO PHO CHALLENGE

Chris Kostokanellis

Mornington Peninsula Astronomical Society

Mo Pho Challenge # 26

Phone – Hubble – Lunar Eclipse Triple Challenge.

Our 26th Monthly photo challenge was a triple challenge:

1. The Hubble Challenge continues, but only new data is allowed.

2.The Lunar Eclipse.

3. Smart Phone challenge. Use your smart phone to capture a Hubble challenge object or the Lunar Eclipse.

The following members completed challenge #26, and received a point for each part of the challenge completed. Only Greg Walton managed to complete all 3 parts of the challenge.

- Alley Raymond* (2 points)
- Greg Walton (3 points)
- Sylvie Grandit (2 points)
- Domenic Lucarelli (1 point)
- Fred Prata (2 Points)
- Michael Barrow (1 point)
- Chris Kostokanellis (2 points)

* First Contribution for 2025

The Mo Pho Challenge summary can be found here:
https://drive.google.com/file/d/1n9QD4dd6kMSLvzNbhW6f3DPaTq2a2XUW/view?usp=drive_link

Clear skies. *Chris Kostokanellis*

Below - Challenge # 3. Astro Mo Phone.
I used one of the phone adapters at the Briars to get a couple of shots through the 127mm Refractor in the Observatory.

The hardest bit was figuring out which lens I needed to use and aligning it with the eye piece.
I set the phone to Pro mode, (RAW image file) adjusted the ISO, Exposure time and focus and took the shots.
M17 – The Swan, and NGC 4755 – The Jewel Box.

Basic denoising and adjustments to light balance, saturation and contrast using the standard Android software.
By Chris Kostokanellis

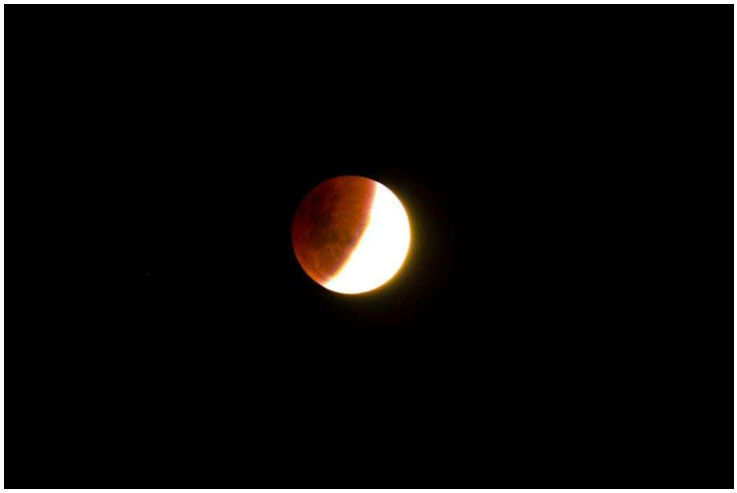
NGC 4755 – Single 15 sec at ISO 3200.

M17. Single 30sec exposure at ISO 1600.

4 images below -

Total Lunar Eclipse. You have probably seen 100's of photos so here's my collections done with 3 different focal lengths: 135mm, 384mm and 2345mm. It was quite a spectral, visually too, especially watching the partial phase ending as the Moon approached the horizon toward sunrise!

By Donimic Lucarelli

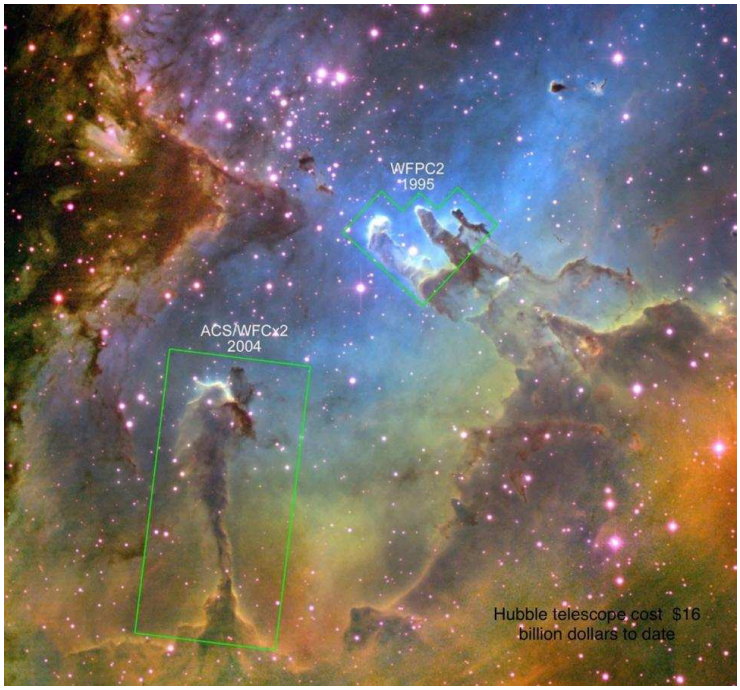


Right -

Astro Mo Pho
Saw the right hand side of this online and had to have a go.
M16 75 x 60sec exposures with the Seestar S50 on the 19th and 20th of August.
Processed using Siril.

By Michael Barrow

Below - Challenge # 1. Hubble image of M16 Eagle Nebula
SEESTAR S50 – 97 x 20sec K4 Mossaic processed with SEESTAR AI denoising feature date 24/08/2025, *by Sylvie Grandit*



Below - Challenge # 1. NGC6334 'THE CATS PAW' 169X20 4K MODE AI denoise feature on SEESTAR, *by Sylvie Grandit*

Below - Challenge # 2. Lunar eclipse taken with SEESTAR, *by Sylvie Grandit*

Right -

Lunar eclipse – iPhone, 8 inch Dobsonian, very steady hands.

By Ally Raymond

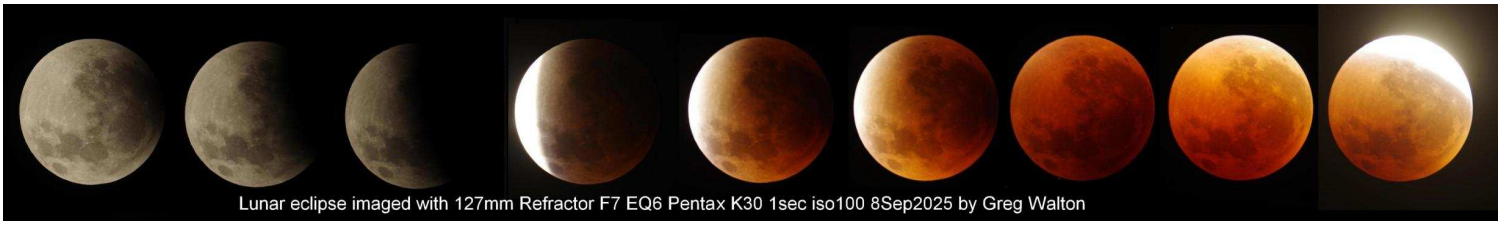
Below -

Challenge # 1.

Hubble with new data - M16

By Greg Walton

Challenge # 2. Lunar eclipse, *by Greg Walton*



Challenge # 3. Lunar eclipse with mobile phone, *by Greg Walton*

Some might think, snapping photos with your mobile phone held up to the eyepiece on your telescope is easy.

This thought is so wrong!!!
It's more like a complicated juggling act.

First you must find which lens works best. Then hold that lens steady in front of the eyepiece. Then slowly move the phone closer to the eyepiece, while making sure you keep the phone perfectly square to the eyepiece. The slightest tilt and the moon goes out of shape. Then you attempt to tap the screen to adjust the brightness and tap on the shot button -without moving the phone.

If you are using a telescope without tracking, by now the moon would have moved out of view and you need the re-centre and start over.

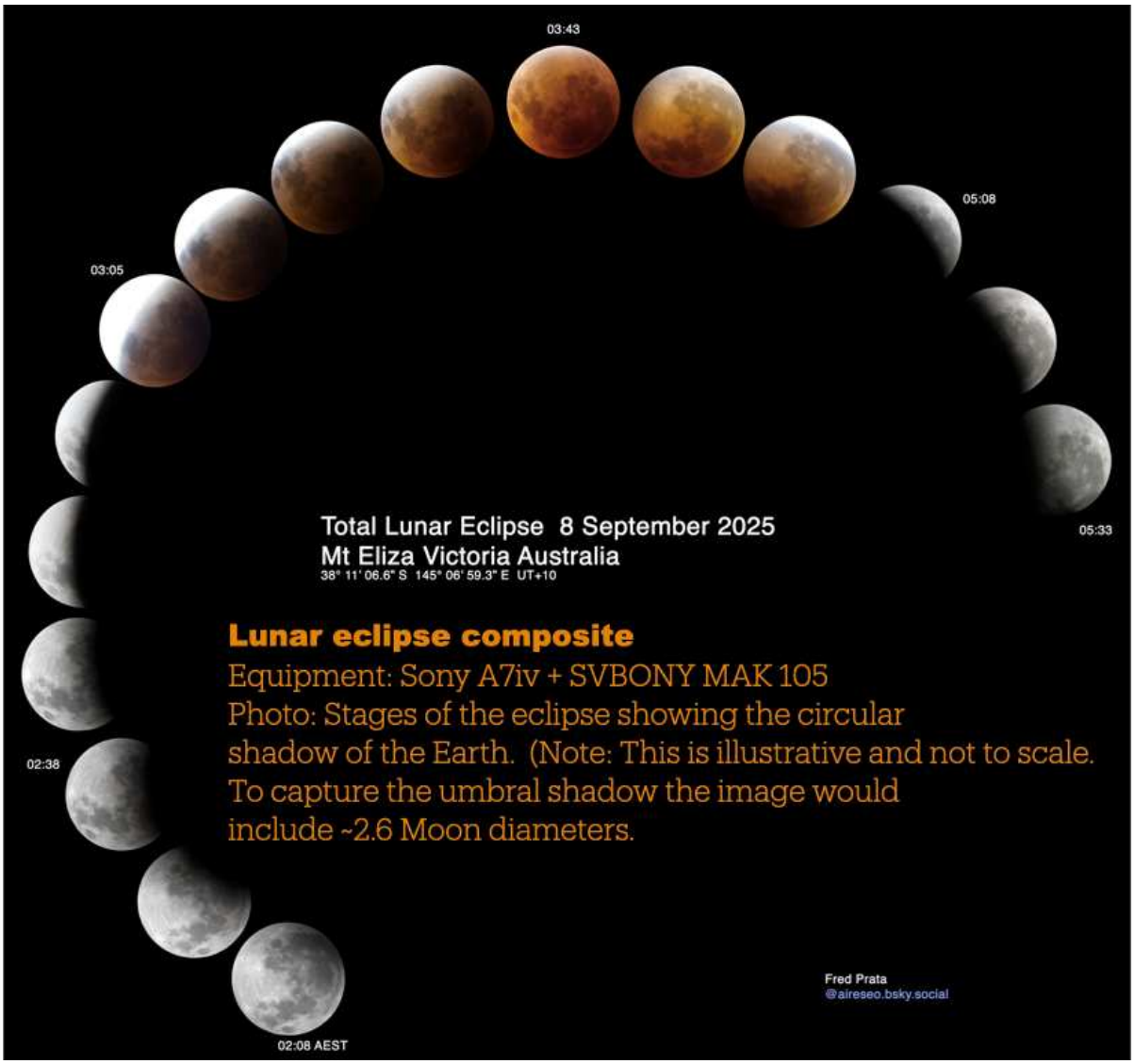
Find an eyepiece with the largest piece of glass.

Right -

Lunar Eclipse.

By Fred Prata.

Lunar eclipse challenge. Totality.
Equipment: Sony A7iv + SVBONY Mak 105



Above – Stages of the Lunar Eclipse. *By Fred Prata*

Right –

Lunar Eclipse.

By Fred Prata.

I used my iPhone as a torch to "light paint" the trees in my garden as the moon was eclipsed. If members aren't familiar with this technique, these photos are nice examples of what can be achieved.

iPhone challenge. Photo: Sony A7iii+77 mm zoom. Light painting using iPhone torch

Mo Pho Challenge # 27

Comets and Asteroids.

By Chris Kostokanellis

Comet C/2025 R2 SWAN was appearing in our skies during September and October, being easily observable in a pair of binoculars, and featuring quite brightly in telescopes.
This challenge saw members tasked with imaging the comet, and the other less observed minor objects in our solar system. I was motivated to set this challenge when an Asteroid made an appearance in my image of NGC 6604 on August 24th, shown here. The Asteroid was Athamantis, a main asteroid belt object about 118km in diameter. I intended to capture more images over the next few days, but the weather was not cooperative. However my subsequent images of NGC6604 on 14th October were missing the little dot that I identified as the Asteroid.

Well done to the members who completed this challenge. The are Michelle Sykes, Greg Walton, Sylvie Grandit, Fred Prata, Chris Kostokanellis, and Guido Tack, who's image of Comet C/2025 R2 SWAN features in our 2026 Members Photographic Calendar.

The Summary video for this challenge is available here:
https://drive.google.com/file/d/1JuRWhgBzbs4RTDBDQrHPsFqrh5SmuQ1H/view?usp=drive_link

Our current and final challenge for the year is Globular Clusters, the jewels of the sky.

Clear skies everyone.

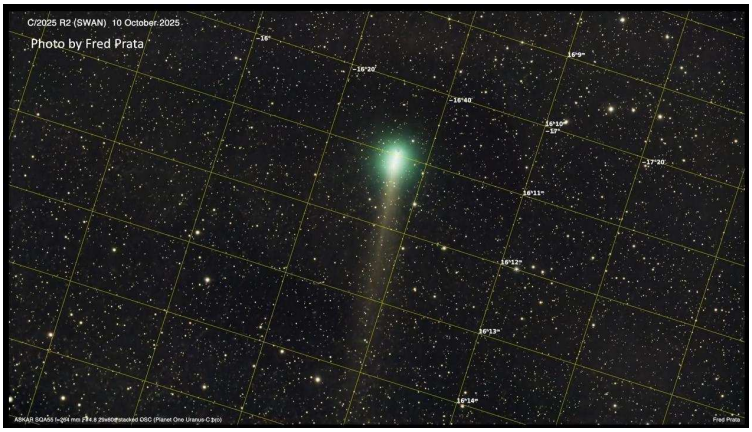
Left – C/2025 R2 SWAN.
26/9/2025 at The Briars.
Nikon 70-210mm lens @210mm f/5.5
ASI 294 MC Pro, on a Skywatcher AZGTi.
10 x 30 Sec, imaged through light cloud.
By Chris Kostokanellis.

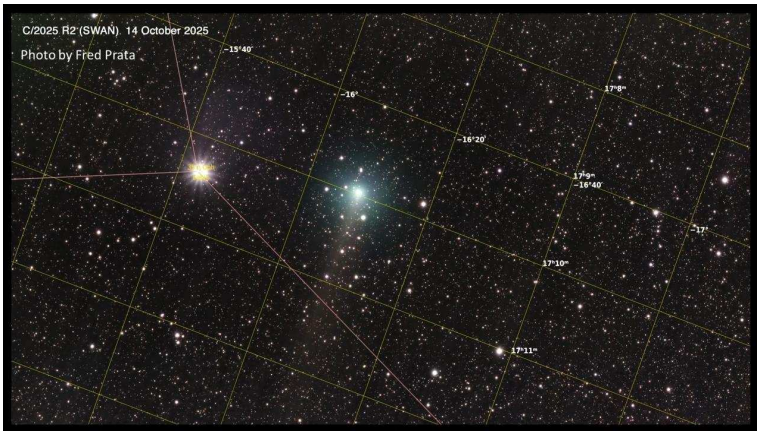
Right – Dwarf / Minor Planet – Ceres.
Main belt object between Mars and Jupiter.
14/10/2025, 200mm Newtonian, ASI294 MC Pro.
Plate Solving and annotation in Siril.
By Chris Kostokanellis

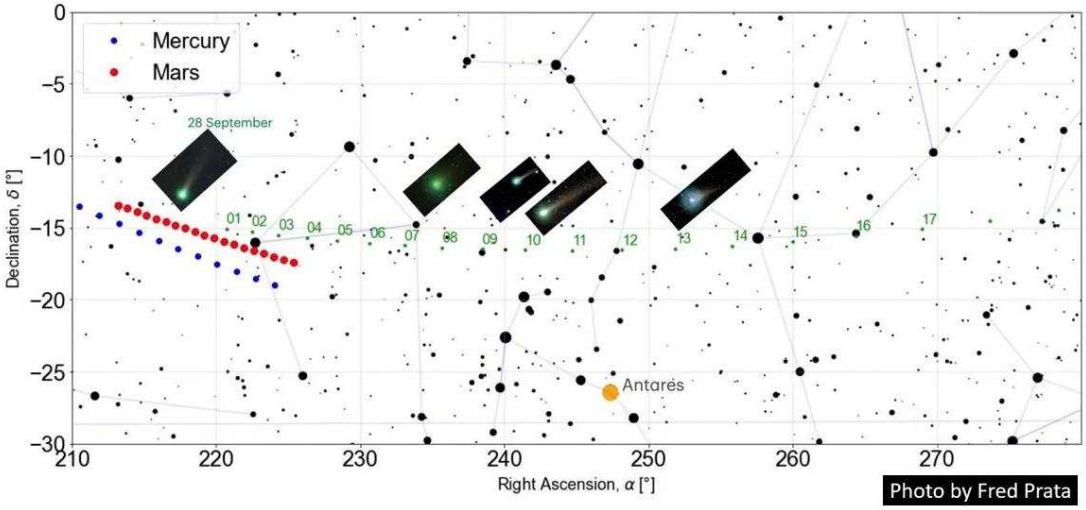
Many Astronomical imaging and processing programs include "Plate Solving". This is the process by which an image is analysed and star patterns are compared and solved against a database of the sky for Right Ascension and Declination. This then allows for the overlaying of information identifying the objects in the image. Plate solving of the above image not only identified Ceres, but also 3 other asteroids.

On this Page - A select of Comet C/2025 R2 (SWAN) images, *by Fred Prata.*

Here are my photos. One is just a regular camera shot (part of a movie) but it's basically what you can see with binoculars or your eyes if it's really dark and you can still focus. Another is an analysis I did to estimate the intensity change of the coma - it's very rough and probably includes local sky changes (not enough time to do a proper job) but it shows what science might be possible from your backyard. The others are telescope photos of various durations on different nights. The tail seems to be disappearing.







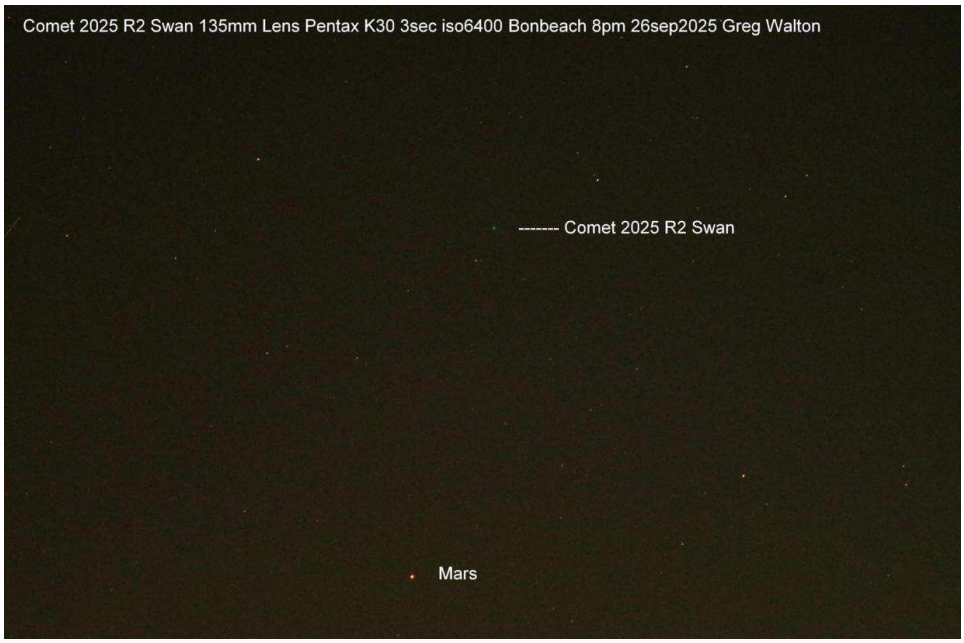
Above - Astro MoPho: Comet C/2025 R2 (SWAN), imaged from the Briars last night (26/09/2025). We only had around half an hour of clear sky, so this was only 27x30 seconds. The comet was still close to Mars, but too far away to capture both in a single frame (at 420mm focal length). It was visible through binoculars. I also tried to get 3I (ATLAS), the interstellar comet, but it's too faint. Hopefully we will get to see it in November. Equipment: William Optics ZS73, ASI294MC Pro, Optolong L-eNhance filter. Processed in PixInsight.
By Guido Tack

Right -

Comet C/2025 R2 SWAN and Mars, imaged from Chelsea 26th Sep 2025.

Couldn't get the tail, due to the background sky glow.

By Greg Walton



Right -
Astro Mo Pho C/2025 R2 Swan comet
Taken with the Seestar S50
27 x 10secs, stacked and edited in the Seestar app.
I had the Seestar on the roof of our van from our driveway in Rosebud.

By Michelle Sykes

Left -

Astro Mo pho -2025 R2 Swan comet.
13 mins x 10sec exposure demonised with Seestar feature.

By Sylvie Grandit

MPAS 2026 Calendar.

The 2026 MPAS Calendar is now available for purchase from the counter. The calendar features 14 beautiful photographs by 14 different MPAS Members, and includes several key dates so you won't forget the next Members meeting, AGM or MPAS BBQ.

These are not only a must have for all MPAS Members, but also make a great gift idea for family and friends.

Members Price: $20. Pick up only.

SOCIETY INFORMATION


Peter Skilton


Chris Kostokanellis


Nerida Langcake

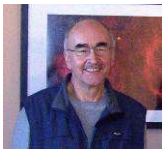

Jamie Pole


Trevor Hand


Guido Tack


Simon Hamm


Phil Peters


Manfred Berger


Greg Walton

OFFICE BEARERS OF THE MORNINGTON PENINSULA ASTRONOMICAL SOCIETY

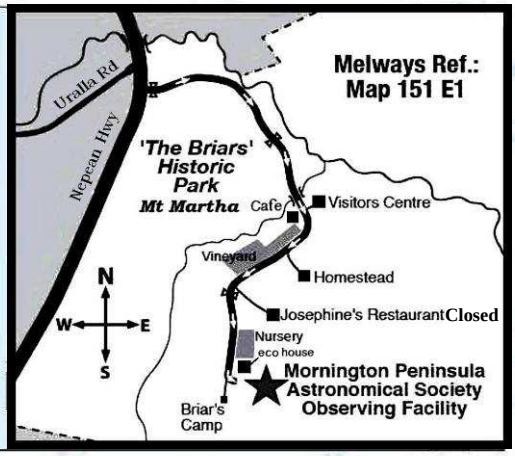
President: Peter Skilton
Vice President: Chris Kostokanellis
Committee: Trevor Hand, Guido Tack, Simon Hamm, Phil Peters and Manfred Berger
Secretary: Nerida Langcake
Treasurer: Jamie Pole
Web master: Guido Tack
Scorpius editor: Greg Walton
Site manager: Phil Peters

SOCIETY MEETINGS

Meeting Venue: MPAS Astronomy Centre
The Briars, 450 Nepean Hwy, Mt Martha
(Melways ref. 151/E1)
Society meetings: Don Leggett Astronomy Centre
8pm on the third Wednesday of the month
(*except December*)
(See map at right & Below)

For addition details:
Internet: www.mpas.asn.au
email: welcome@mpas.asn.au

Phone: 0419 253 252
Mail: Mornington Peninsula Astronomical Society
450 Nepean Hwy, Mount Martha, Victoria, 3934



LIBRARY


Fred Crump

The Society also has books & videos for loan from its library, made available on most public & members nights at The Briars site. Contact Fred Crump - Librarian

E-SCORPIUS NEWSGROUP

M.P.A.S. main line of communication is the online newsgroup called E-Scorpius. Here you will be kept up to date with the latest M.P.A.S. news & events information as well as being able to join in discussions & ask questions with other members. To join, email welcome@mpas.asn.au say that you want to join E-Scorpius & you will be added to the E-Scorpius list.

MPAS members - https://www.facebook.com/groups/MPAS1/
MPAS public - https://www.facebook.com/mpas0/

VIEWING NIGHTS - MEMBERS ONLY

Members only Viewing Nights - any night at The Briars, 450 Nepean Hwy, Mt Martha. Members visiting The Briars for the first time must contact Greg Walton on 0415172503 if they need help getting to The Briars site. Upon arrival at the site, remember to sign the attendance book in the observatory building.

For additional details:
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450 Nepean Hwy, Mount Martha, Victoria, 3934

Members please write a story about your astronomy experiences and add some pictures.
Send them to the editor: Greg Walton gwmpas@gmail.com
MPAS newsletters online - https://drive.google.com/folderview?id=0ByvkxzZGI9g_SUNmZVhkZTFGWTA

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