

Cover image - CG4 The Hand of God, By Nik Axaris



# 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/>

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Mornington Peninsula Astronomical Society

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# SOCIETY NEWS



**Public Viewing Night January 5th** - The first public night for the year kicked off on January 5th at the Briars. Conditions were mild shirtsleeve temperatures for most of the evening with a slight breeze being enough to keep any prospective mosquitoes away. The skies were cloud-free throughout for the 73 visitors, some of whom were sporting telescopes they'd been given for Christmas. The Briars also had the outdoors cinema playing the Barbie movie on the big inflatable screen next to the Visitor Centre. So pink!

Indoors, and Barbie-free, the talk was given by Guido Tack before everyone moved outside for some good views of Jupiter, Saturn and many other objects. Very interestingly, one of the visitors was the daughter of Jim Imrie, who was the Society's very first President in 1969 and who passed away in 2003. Michelle Wilden (née Imrie) recognised his name on the honour board on the wall and identified herself and filled in some details. She said, she always maintained a close interest in all things astronomical from her early years, as have her two sons, and that she'll join MPAS soon, especially as she now lives nearby. She also thought she has past papers from her father about the early days of the Society on the 1960's and 1970s, which will be very welcome news if she can find them.

Other members present and helping on the evening were Katherine McCoy, Rohan Baumann, Leigh Hornsby, Nerida Langcake, Piper Grierson, Simon Hamm, John Goodall, Chris Kostokanellis, Ben Claringbold, David & Landon Rolfe, Das Patterson, Greg Walton, Peter Skilton, Mark & Alison Rayment. *Regards, Peter Skilton*

**Public Viewing Night January 6th** - The second public night for the year was on Saturday, January 6th at the Briars. This was a bit of an experiment to see if holding these Summer holiday nights on a Saturday would work in practice, and the crowds indeed showed that it worked as well on a Saturday as on the Friday.

Conditions were again mild with a slight breeze; however, the skies were totally clouded for most of the evening this time. We had 81 visitors listen to Guido Tack take them through a tour of the Universe for an hour, before they came outside to get a somewhat cloud-filtered view of Jupiter through the telescopes. Nevertheless, those who waited around for half an hour were treated to clearer conditions with not only planets but Great Orion nebulae M42 visible as well. We also had the outdoors cinema play the Trolls movie over the hill, and occasionally we'd hear parts of it if the breeze was in the right direction.

Other members present and helping on the evening were Sophie Grandit at the welcome counter, Simon Hamm, Nerida Langcake, Piper Grierson, John Goodall, Chris Kostokanellis, Ben Claringbold, David & Landon Rolfe, Greg Walton, Peter Skilton, Fred Crump, Liam & Arno Laube. *Regards, Peter Skilton*

## MPAS @ Mt Buller 5th and 6th of Jan 2024.

MPAS members – Phil Peters, Neil Thompson, Kelly Clitheroe, Alex Cherney, Jamie Pole, and Fiona Connell – all headed up to Mt Buller Resort on Friday the 5th of Jan 2024.

The event we were going up to help with was a Public Viewing Night, Sunset Photography, and Nightscape Photography event setup in conjunction with the [ASV](#), [MPAS](#), and [ASOG](#).

The accommodation for the next couple of days was the largely unused medical centre dormitory onsite at the Mt Buller Resort, almost opposite the field where we'd be conducting the viewing session each evening.

The public viewing sessions each night were both booked to around the 130 persons per night, with about 10 scopes available on the night.

Phil took up an MPAS (ASF) instrument, an 8" Dobsonian, Neil took along his 10" Dobsonian, and I took along my Tak FS60q on a little alt/az tripod mount.



The first night, despite some ugly cloud conditions before sunset, was an almost perfect evening with lots of viewing of objects such as Jupiter, Saturn, Pleiades, Orion Nebula, Eta Carinae, Jewel Box, Tarantula, 47 Tucana and many other objects.

Many satellites were spotted by keen eyed public and demonstrators in what were very nice skies indeed. The lighting at the location was quite reasonable except for a couple of floodlights that lit up the area from downhill, that we couldn't get turned off on the night. We were all kept busy looking at various things (mostly Jupiter and Saturn for the first ½ hour) as Astronomical Twilight fell. Fiona was busy corralling the kids in the group around to different scopes and objects, so they all got to see what was available.

MPAS & ASOG member Kelly did an entertaining night sky tour with a laser pointer, and some multimedia assistance. The tour took in a few of the key objects in the sky and was a very entertaining part of the evening, well received by the crowd, with some great indigenous astronomy tales to add yet another dimension to the night.

Afterwards we all went back to the medical centre for some celebratory refreshments before turning in for the night.

The second evening looked like a write off from a cloud perspective early on, with a very similar situation happening at MPAS for their second public night of 2024.

Kelly again did her sky tour, this time with the aid of an overhead projector outside onto the side of a van, without the benefit of having any visible stars. This was entertaining although challenging and used several visual aids including Stellarium and Astrophotography images to describe objects and their features both in modern and indigenous astronomical terms.

Just as the crowds were leaving without hope of seeing much as the clouds seemed very set in, an enormous hole in the cloud opened, lasting more than an hour. We managed to get the northern and eastern skies giving us firstly Jupiter, then Saturn, then Pleiades, then Orion.

We quickly got as many remaining people through the scopes as we could and called back some of the people that had just walked away. Fiona quickly retrieved a group of International Venturers who were attending other events in the region and had tagged along to see some stars.

The 'large hole' moved slowly across the sky, eventually moving to the southern skies where we were able to show Eta Carinae, the Tarantula, the LMC and SMC, 47 Tucana and some other objects before things clouded up completely again. We retired at about 11:30pm for some more rest and refreshments.

A great event that was enjoyed by all – a big thank-you to all involved in arranging and coordinating, especially Mark Iscaro from the ASV for doing a Loaves and Fishes job of feeding everybody on a home-made (by him over two nights) lasagne. Everybody made it home safely today driving through the rains etc. *By Jamie Pole*



**Sporadic Members Viewing Night January 10th** - Last night we had a good turnout of members and dark sky with no Moon. Everyone got to see the asteroid Vesta through the 350mm Meade telescope and surprisingly Vesta is yellow in colour. Vesta is bright enough to be seen in 50mm binoculars at 7 magnitude. Vesta was very easy to find as it's just below the bright star Zeta Tauri for the next few nights.

Jupiter with the 350mm Meade stopped down to 100mm: Luckily the red spot was easily visible, though not looking as red as usual.

47 Tuc NGC 104 through the 350mm Meade was as always a show stopper with lots of wows.

Pin Cushion NGC 3532 was the first object that the Hubble telescope imaged, which showed there was a flaw in the mirror.

Pleiades M45 with a 40mm eyepiece on the 127mm refractor: With this setup we could see the entire cluster.

Jewel Box NGC 4755 showed some nice colours in the stars. Then moving the telescope to Red star Ruby Crucis which is the reddest star in the south sky, easily found as it sits next to Beta Crucis and is a carbon burning star

NGC 2262 Hubble variable, which looks a lot like a comet.

Then we fitted a UHC ultra high contrast filter to the 350mm Meade and looked at the following objects:

M42 Orion Nebula and NGC 2070 Tarantula which definitely showed a lot more detail than without the filter.

NGC 3372 Eta Carinae Nebula and the Electrical Tape nebula which sits inside the Eta Carinae Nebula and looks as if someone has placed a piece of black electrical tape over part of the nebula. Then a small hop to the Crescent Nebula NGC 3199 which has the shape of a crescent Moon; it's easy to remember its number as the post code for Frankston. In the same area IC2944 Running Chicken nebula is a bit of a challenge, the nebula lays either side of a line of stars but we did see it with the help of UHC filter. Also close by is NGC 35824 Four Knots Nebula which looks like a paw print. NGC 2359 Thor's Helmet and finally the planetary nebula NGC2438 in the star cluster M46.

We packed up at midnight, very happy with what we had seen. *By Greg Walton*

**Public Viewing Night January 12th** - The third public summer stargazing night was held at the Briars on 12th January under cloud-free and Moon-free sky conditions. There were 87 visitors and a warm night, mercifully without a mosquito in sight.

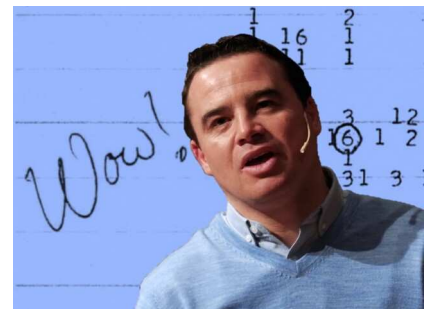
The talk indoors was given by Katherine McCoy and Peter Skilton, with questions ranging far and wide while the sky darkened. As it turned out, one overseas family was visiting from South America and were very surprised and impressed to be able to learn about the Campo Del Cielo meteorite fall there and hold a piece for themselves. They then went and bought a couple of baby samples from the merchandise counter afterwards as well. After an impassioned sales pitch by Katherine and Peter for the calendars and almanacs, the audience was whipped into a spending spree for these later in the evening, with Simon Hamm & Sylvie Grandit then breaking all records at the counter.

After 9 pm, everyone moved out to the telescopes, with just about all instruments being operational. There was also the occasional bright meteor in the east that was seen by some attendees, and tying in nicely to the meteorites spiel earlier.

Other helpers outside making the night run smoothly included Ben Claringbold, Robin Broberg, Julie McErlain, Alan Predjak, Jason Heath and friend Linda who was helping him with his new 10 inch Dob, Craig Turner, David Griersmith, Jamie Pole, Nerida Langcake, Piper Grierson, Greg Walton, Mike Smith, Guido Tack and of course Phil Peters and Chris Kostokanellis. Nerida was secreted away most of the evening with testing a new astrophotography gadget newly acquired by MPAS for outreach, but more will be said about that later by others more knowledgeable in that than me. So Piper was left to operate the family Dobsonian on her own on the upper slab, and pulled it off well by all accounts. It was a most pleasant and very successful evening, enjoyed by all. *Regards, Peter Skilton*

**Society meeting January 17th** - For those of you who are not yet subscribed (it's free) to the MPAS YouTube channel, this month's meeting has been uploaded. The meeting features Keith Cooper, Freelance Science Journalist, magazine Editor and Astrophysics graduate of Manchester University, on the topic of "Why Have We Not Found Any Aliens?" This talk was hosted by the Royal Institution in London. Also covered was AstroMoPho and Sky for the Month, plus a run down of the status of the hunt for a theory of everything.

We closed with the phases and orbital circumstances of the Moon each hour for the entire 2024 (as seen from the Southern Hemisphere), courtesy of the NASA Scientific Visualisation Studio. It is set to the music of Perception by Benjamin Tissot from [bensound.com](https://www.bensound.com)



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/UCm6XOkIcIfl14y0XRBXpXuW> or watch it on the MPAS site once it's refreshed for this month: <https://www.mpas.asn.au/meeting-recordings/> Regards, Peter Skilton

**Public Viewing Night January 19th** - The final public night in the January Summer series saw 88 visitors come to hear Manfred Berger give the talk on a mild, but unfortunately 95% clouded, night. And they kept him very busy with questions afterwards as well.

Outdoors, and giving quick clouded glimpses of the waxing Moon and Jupiter, were several telescopes. Running the instruments and helping keep the show on the road were Sylvie Grandit, Fred Crump, Marcus Mulcahy, Simon Hamm, Jason Heath, Phil Peters, Peter Skilton, John Goodall, Greg Walton, Anne & Geoff Danne, Robin Broberg, Chris Kostokanellis and Ben Claringbold.

*Regards, Peter Skilton*

### **Working Bee, Members BBQ and Observatory training January 20th**

We had a good turnout of members for the working bee, lawns were cut and edges trimmed, trees were pruned back behind the observatory as they were starting to block the eastern sky, telescopes were dusted off and some small repair jobs done. Other members cleaned the clubrooms and run the BBQ. It was Fred and Bonnie's birthday so we organized a cake. Around 8 o'clock I ran the observatory training session, which includes opening the observatory, starting up the telescopes and finding the most popular objects in the summer sky, then how to shut down the telescopes and close the observatory. We will run more observatory training session through out the year, *Greg Walton.*



**Public Viewing Night February 2nd** - The February public night at the Briars was buzzing with activity and saw 95 visitors under clear viewing conditions and mild evening temperatures. Everyone who booked turned up, and then plus a few more. Trevor Hand gave the talk indoors, before everyone moved outside for some telescope usage. The Tiangong space station passed low in the west about 5 minutes before everyone exited the auditorium, and appeared quite a bit brighter than expected. Although it was only seen by members outside, there were literally dozens of other easily visible satellites seen by everyone during the later evening. Members present and helping on the night were Chris Kostokanellis, Sylvie Grandit, Leigh Hornsby, Katherine McCoy, Simon Hamm, Pam Halsall, Peter Skilton, Connor Mathieson, Jason Heath, Alan Predjak, Nerida Langcake, John Goodall, Mike Smith, Ben Claringbold, Guido Tack, Liam & Arlo Laube, Neil Thomson, Jamie Pole, Greg Walton, Robin Broberg, Selissa Damor and Edwin Ingles. If you attended but I've missed you, do remember to write your name in the log book each time, otherwise you might not be recognised here. *Regards, Peter Skilton*

**Sporadic Members Viewing Night February 10th** - We had a good turnout of members, until the power went off just before 11 pm. Then we had to manually park all the telescope and close the observatory roof. Luckily we haven't motorised the roof yet. We also made sure that everything was switched off, as when the power returned, lights and telescope would start up.

Some members stayed on, so we dragged out a 12 inch Dobsonian telescope and did a tour of the popular objects. While Jason also had his 10 inch Dobsonian running with a zoom eyepiece. We even found the Sombrero Galaxy and Ghost of Jupiter. By using the level app on the mobile phone. Nerida had the Society's new Wi-Fi scope imaging many interesting objects. Luckily it was battery powered and could continue imaging after the power went off. Overall it was a successful night, finishing up around 1am. Regards Greg Walton 10th February

A few images captured last night with the MPAS Seestar telescope! (with minor post-processing) Nerida

**Trivia Night and Concert February 17th** - The Musical Star Gazing Trivia Night was hosted by MPAS in conjunction with the Cranbourne Lions Concert Band at the Briars. The purpose of the event was to raise funds for both MPAS and the Band, by providing an evening of entertainment, and all who attended were certainly entertained.

The evening started off under mostly clear skies, a very comfortable temperature in the low 20s, and a 57% illuminated moon visible in the sky. While the band was setting up and the BBQ was getting under way, the crowd started rolling in. Some took to the tables that had been placed out by the MPAS volunteers, while others claimed a patch of grass and lay down their picnic rugs.

David Rolfe, our MC for the evening, got things started, and Conductor Russell Oxley set the band to work, playing the music of John Williams and other composers, in sets featuring the theme music to many Science Fiction classics. Chantelle Riordan and friends also did a fantastic job of treating us to a set of Jazz.

The BBQ and kitchen volunteers were kept very busy during the evening, maintaining a steady flow of sauce, burgers and sausages for the hungry trivia buffs, who happily handed their cash and tapped their cards for our counter staff. Our trivia score checkers also did a diligent job of placing ticks and crosses next to the answers and keeping track of the scores during the musical interludes.



Several prizes were provided by the band and MPAS, and handed out to winners of raffle tickets, fancy dressers, and top trivia performers. Unfortunately, as the evening rolled on, the clouds rolled in, and there was not much stargazing to be done, apart from some daytime views of the moon early in the evening, and some brief glimpses of Jupiter between the clouds.

All up, the profit for the day was \$1,634, split between MPAS and the Band. We must thank and congratulate the Cranbourne Lions Concert Band for a very entertaining evening, and thank the MPAS Members who assisted on the day to make it enjoyable for all present.

MPAS Members present and assisting included Simon Hamm, Connor Mathieson, Pia Pedersen, Greg Walton, Mike Smith, Leanne Roach, David Rolfe, Jamie Rolfe, Landon Rolfe, Phil Peters, Ben Claringbold, Kitty Penfold, Julie McErlain, Katherine McCoy, Sylvie Grandit, Liam and Arlo Laube. My apologies if I forgot to mention anybody, but if you were there and you bought a sausage or a burger, you assisted!

*By Chris Kostokanellis.*



**Members Astrophotography Group meeting February 17th 2:30 PM to 4:00 PM** - The workshop on capturing and processing planetary images. MPAS Member Russell Smith generously demonstrated the programs and workflow to get the most out of your planetary images. *Clear skies! Chris Kostokanellis*

**The workshop covered the following topics:**

A brief overview of capturing data.  
Using PIPP - planetary centring (and video file format)  
Using AutoStakkert! 3/4 (stacking video)  
Using RegiStax 6 / waveSharp (wavelets / sharpening / denoise image)  
WinJUPOS (time depending)  
Final touch-ups - GIMP/Photoshop

Software used:

Autostakkert: <https://www.autostakkert.com/wp/download/>

Registax: <https://www.astronomie.be/registax/download.html>

Winjupos: <http://jupos.org/gh/download.htm>

GIMP: <https://www.gimp.org/downloads/>

See Russell Smith's article in newsletter Sep/Oct 2021 <https://www.mpas.asn.au/scorpius/2021/Scorpius%205%20sep-oct-2021.pdf>

**Society meeting February 21st** - MPAS meeting at the Briars, started at 8 pm, Peter Skilton (President) reported on events that the Society had done in the past month and future events. Chris Kostokanellis (Vice President) with Astro Mo Pho, Greg Walton standing in for Guido Tack with Sky for the Month.

The monthly topic then followed, probing Uranus and everything you're likely to want to know about it. At the moment, it is still visible in the evening sky, but disappearing in the coming months. NASA and ESA are getting very excited about exploring there soon. We also hear about the loudness of the Big Bang, and where the edge of the Universe is located. Closure was a look at the Baby Come Back mission from last year including its unique orbit. You can watch this at leisure at a later date on the MPAS YouTube channel see link.

<http://www.youtube.com/channel/UCm6XOKlCflft4y0XRBXpXuw>

**Members Night BBQ and working bee February 24th** - We had a smaller turnout than usual. The grass was cut and edges trimmed. Then we cut back the trees along the path to the top car park. We also chainsawed the top of the last tree behind the observatory. We raised the height of the large door on the telescope storage room and fitted the wheel to stop it from dragging on the concrete slab. We also bolted down a metal pier on the upper concrete slab for the Society's new Seestar imaging telescope. This pier has a rotatable mounting plate which is needed to align the Seestar. The handrail alongside the path to the toilet was repainted and timber garden edging near the top car park got painted as well. A bit of dusting and sweeping was done and the toilet and kitchen were cleaned. Jamie made a pav and Anne made a chocolate moose and roast potatoes with cheese topping. We also had plenty of hamburgers which were leftovers from the Trivia Night. There were also plenty of salads. Anne and Geoff set up their 8 inch Celestron GoTo telescope for a bit of practice ahead of the Gippsland star party; Jupiter looked great through their telescope. Nerida picked up the MPAS marquee for the Bentleigh Street Festival and the rest of us had an early night as we had to be at the Festival to set up the marquee around 7 am the next morning. Big thanks to all who helped out on the day. *Regards Greg Walton*

**Bentleigh Festival February 25th** - It was a very cold and early start at the Bentleigh Street Festival. The marquee had to be set up at 7:30am and cars moved off site. Then we had to find coffee before the first public started to appear around 9 am. From then the number increased quickly which kept everyone busy.

Pia stood in the middle of the road and directed the crowd to the MPAS stand where Chris was waiting with the MPAS solar telescope and Trevor and Connor with a collection of meteorites. Chris ran the solar telescope like a well-oiled machine telling visitors interesting facts about the Sun. From time to time there was a long queue waiting to look through the telescopes. We heard many "That's so cool" and "Wow, is that the Sun?"

Through the solar telescope the Sun had a large sunspot near its centre and there was plenty of prominence around the edge. We

were set up near the ferris wheel and had Brazilian Dancers and a very loud brass band parade pass several times. A few MPAS members dropped in to say hi. The public had many questions about the Society and the events we run. I'm sure we will see many of them at the next PVN or Telescope Learning Day. By the end of the day everyone's legs were aching and we were all sunburnt. Big thanks to Trevor Hand, Chris Kostokanellis, Phil Peters, Nerida Langcake, Connor Mathieson, Pia Pedersen and myself. *By Greg Walton*

I estimate I talked to just over 200 people during the day; surprisingly, my voice managed the day well. I arrived at 7:30 for setup and a brisk 11 degrees, so I sat out in the Sun warming up (like a lizard on a rock) until the others arrived a little later. It's amazing the difference a few hours make, from an empty street before the festival started, to a balmy low 30's and thousands of people! *Trevor Hand*

It really was a terrific day. Well done to everybody. I did a count over a 15 min period between 1 and 1.30 pm. I counted 41 people in total coming and interacting at our marquee with someone, not just me. That's 164 per hour, 1,148 over 7 hours. I wouldn't say that 15 minute period was particularly busy, as there wasn't a queue at the telescopes or desk like there was at other times. I think we were significantly busier and generated more interest than many of the other groups (except for the food outlets). I don't know about everybody else, but my voice could sure do with a rest today. *Chris Kostokanellis*

Wow what a long, hot and enjoyable day! We set up our MPAS marquee at the Bentleigh Street Festival which has such a great atmosphere. We showed the crowd through our telescopes, let them hold real meteorites and perhaps enticed many of them to visit us at the Mount Martha Observatory. I'm going to sleep so well tonight (if my sunburn permits)! *Nerida Langcake*



# OBSERVATORY UPDATE

By Greg Walton



MPAS have purchased a nifty device, the Seestar S50 Smartscope (<https://www.seestar.com/>), which is going to be awesome for use at public outreach events (e.g. live stacking, projecting to the big screen, wheelchair access, kids who can't reach the eyepiece on a telescope, and so on). I've had the privilege of learning how to drive it, so here are a few of the brighter images I've taken with the device (minimal post processing - I've only darkened the blacks in some pics). Each image is stacked from 10 sec subs, and because I'm impatient, none of these images took longer than 12 mins 50 secs. *By Nerida Langcake*

## From left to right -

Orion Nebula M42

Tarantula NGC 2070

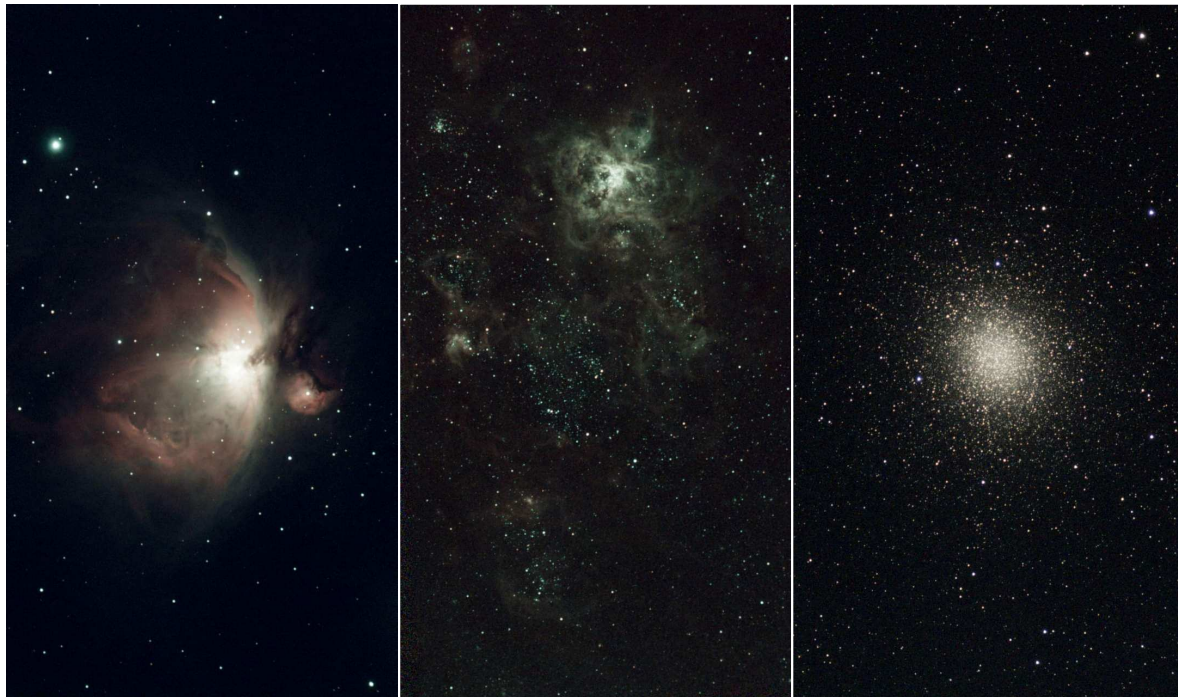
Omega Centauri NGC 5139

Eta Carinae Nebula NGC 3372

Banana Nebula NGC 3199

Statue of Liberty Nebula NGC 3576

Gem Cluster NGC 3293 with the **Gabriela Mistral Nebula (NGC 3324)**



# WHAT'S ON



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

## The 2024 timetable of public events.

### MARCH

- Friday 1st, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated.
- Wednesday 6th, 8pm Briars. Strathaird Primary school, 70 Year 6 pupils. Speaker Katherine McCoy & Peter Skilton.
- Saturday 9th, 8pm Briars. Stargazing night for 30 birthday visitors from camp next door. Speaker Katherine McCoy & Peter Skilton.
- Monday 11th, all day marquee. Somerville Family Day, Fruit Growers Reserve, Somerville. 19,000 Public anticipated.
- Friday 15th-Sun 17th, Buchan for Gippsland Star Party. Collaboration with LVAS & ASV (not a public event, must bring own gear).
- Tuesday 19th, 7:30pm at Parkdale Secondary College, Warren Rd, Mordialloc East. 150 Year 7 pupils. Speaker Peter Skilton.
- Saturday 23rd, 4pm Briars. Telescope Learning Day (public & members). Speakers various. 90 anticipated. Bookings not yet open.

### APRIL

- Friday 5th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated.
- Saturday 27th, 8pm Briars. Scout, Cubs & Guides night. Speaker TBD. 90 anticipated. Bookings not yet open.

### MAY

- Friday 3rd, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated.
- Friday 24th, 8pm Briars. Scout, Cubs & Guides night. Speaker TBD. 90 anticipated. Bookings not yet open.

### JUNE

- Friday 7th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet open.

### JULY

- Friday 5th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet open.
- Friday 26th, 8pm Briars. Scout, Cubs, Guides & Joeys night. Speaker TBD. 90 anticipated. Bookings not yet open.

### AUGUST

- Friday 2nd, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet open.
- Friday 16th, 8pm Briars. Public stargazing night for National Science Week. Speaker TBD. 90 anticipated. Bookings not yet open.

### SEPTEMBER

- Friday 6th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet open.
- Saturday 14th, 1pm Briars. Astrophotography Workshop (public & members). Speakers various. 90 anticipated. Bookings not yet open.

### OCTOBER

- Friday 4th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet open.
- Saturday 19th, 4pm Briars. Telescope Learning Day (public & members). Speakers various. 90 anticipated. Bookings not yet open.
- Friday 25th, 8pm Briars. Scout, Cubs & Guides night. Speaker TBD. 90 anticipated. Bookings not yet open.

**NOVEMBER** - Friday 1st, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet open.

**DECEMBER** - Friday 6th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated. Bookings not yet open.

## ★ New Members Welcome ★

Craig & Lucy Johnston

Amy Quirk

Paul Van Leeuwen

Robert King

Nathan Johnson

Ingrid Pinkerton

Sylvia Papp

James & Fox Martinus

### MPAS SUBSCRIPTIONS 2024

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 2024 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 2024 fees is:

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.

### SOCIETY FEES

- \$50 – Full Member
- \$45 – Pensioner Member
- \$65 – Family Membership
- \$60 – Family Pensioner Membership

*See more options on-line*



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		March / 2024					Red Days indicate School Holidays
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
<b>31</b> Easter NACAA					<b>1</b> Public night 8pm	<b>2</b>	
<b>3</b>	<b>4</b> Last Quarter	<b>5</b>	<b>6</b> Strathaird Primary	<b>7</b>	<b>8</b> Mars below a thin crescent Moon dawn	<b>9</b> Venus Left of a thin crescent Moon dawn Visitors from camp	
<b>10</b> New Moon Moon at 356,895km	<b>11</b> SFFD Labour Day	<b>12</b>	<b>13</b>	<b>14</b> Jupiter left of the Moon	<b>15</b> Gippsland Star Party	<b>16</b> Cosmology 2pm Gippsland Star Party	
<b>17</b> St Patricks day First Quarter Gippsland Star Party	<b>18</b>	<b>19</b> Parkdale Secondary College	<b>20</b> Society Meeting 8pm	<b>21</b>	<b>22</b> Venus and Saturn close dawn	<b>23</b> TLD 4pm BBQ 6pm	
<b>24</b> Moon at 406,294km	<b>25</b> Full Moon Lunar eclipse	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b> Easter NACAA	<b>30</b> Easter NACAA	

**Monthly Events**

**Public night** - 8pm to 10pm on the 1st @ The Briars MPAS

**SFFD - Somerville Family Fun Day on the 11th** (Public event)

**GSP - Gippsland Star Party** 15th to 17th March @ Buchan

**Society Meeting** - 8pm to 10pm on the 20th @ The Briars (Public & members)

**Telescope Learning day & Members night BBQ** - 4pm on the 23rd @ The Briars (Public & members)

**NACAA 2024** = 29th March to 1st April over Easter @ Parkes NSW

CALENDAR		April / 2024					Red Days indicate School Holidays
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
	<b>1</b> Easter NACAA	<b>2</b> Last Quarter	<b>3</b>	<b>4</b>	<b>5</b> Public night 8pm	<b>6</b> Saturn & Mars below thin crescent Moon dawn	
<b>7</b> Daylight Saving Ends	<b>8</b> Moon at 358,850km	<b>9</b> New Moon	<b>10</b> Saturn & Mars close dawn	<b>11</b> Jupiter left of thin crescent Moon	<b>12</b>	<b>13</b> Cosmology	
<b>14</b>	<b>15</b>	<b>16</b> First Quarter	<b>17</b> Society Meeting 8pm	<b>18</b>	<b>19</b> Venus & Mercury close dawn	<b>20</b> Working bee 4pm BBQ & Cos 6pm Moon at 405,623km	
<b>21</b>	<b>22</b>	<b>23</b> Scorpius Deadline	<b>24</b> Full Moon	<b>25</b> ANZAC Day	<b>26</b>	<b>27</b> SCAG Scout, Cubs & Guides	
<b>28</b>	<b>29</b>	<b>30</b>					

**Monthly Events**

**Southern Comets website** - <http://members.westnet.com.au/mmatti/sc.htm>

**Public night** - 8pm to 10pm on the 5th @ The Briars MPAS

**Cosmology Meeting** - 2pm on the 13th @ The Briars

**Society Meeting** - 8pm to 10pm on the 17th @ The Briars (Public & members)

**Working Bee 4pm, Members night BBQ & Cosmology talk** - 6pm on the 20th @ The Briars

**SCAG** - Scout, Cubs & Guides - 8pm to 10pm @ the Briars

Watch your emails, as on any clear nights the Observatory may be opened for members-only viewing.

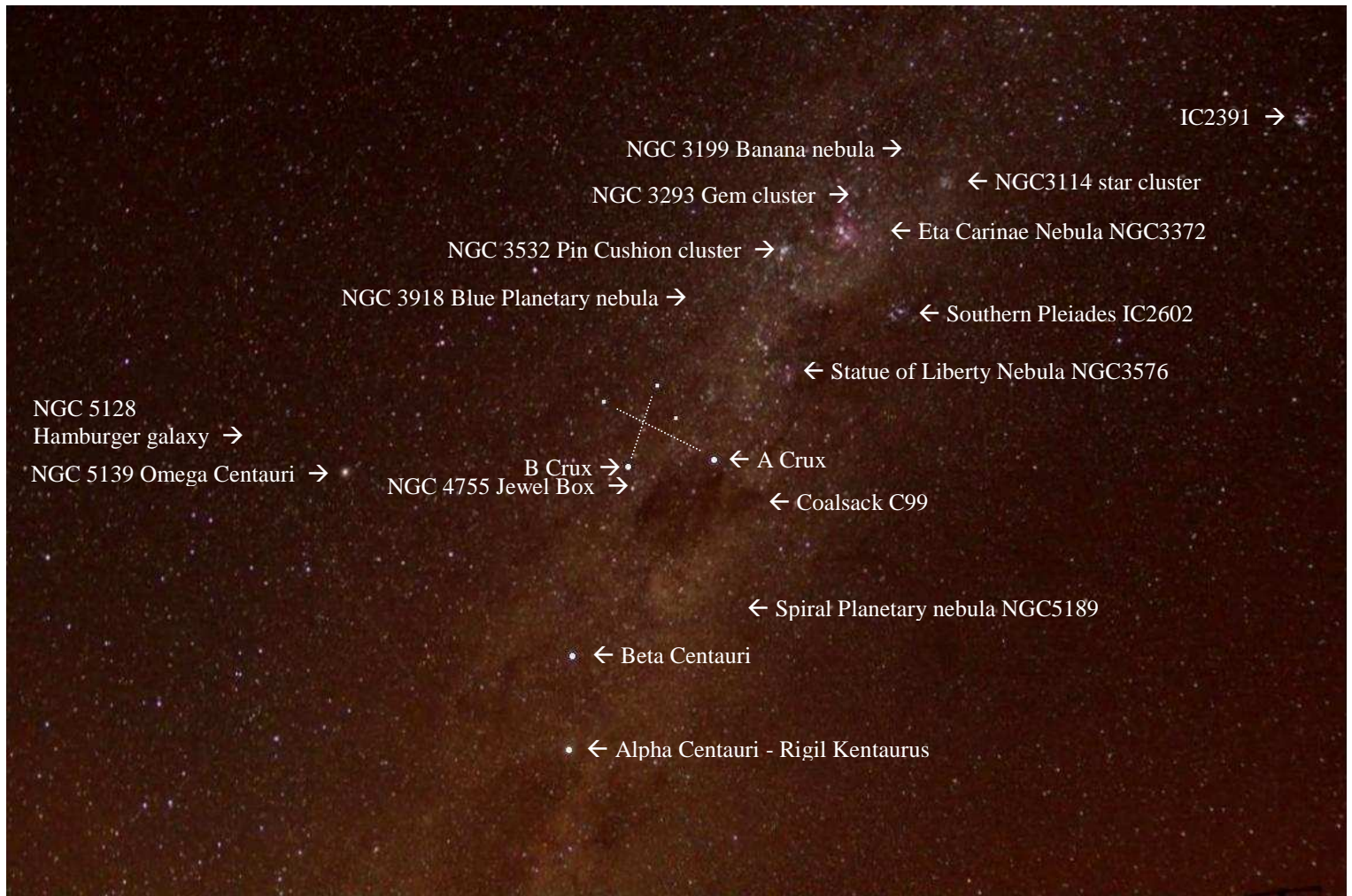
# THE BRIARS SKY

By Greg Walton

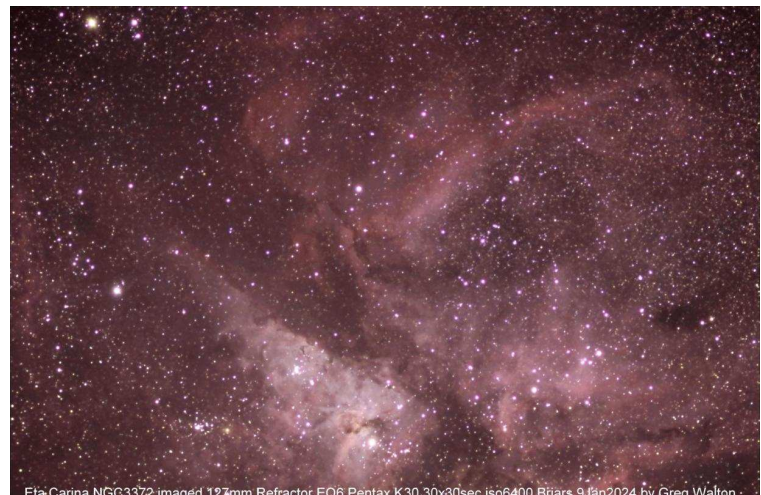
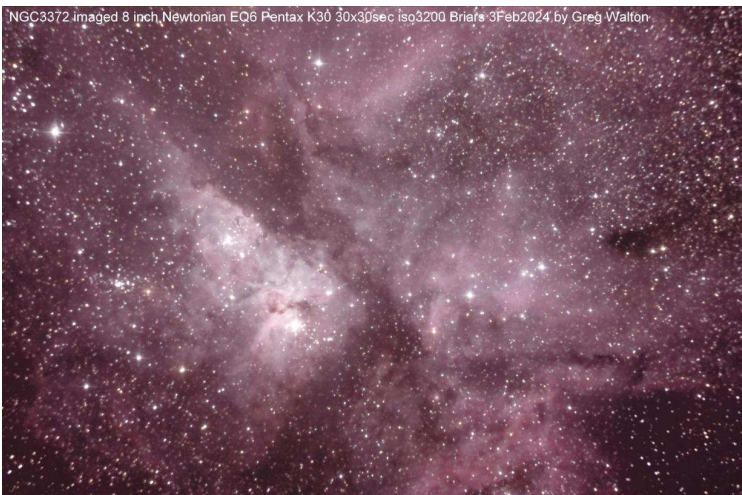


In Autumn as the Southern Cross climbs higher in the southeast, with its raft of interesting objects. One being the Carina Nebula (or Eta Carinae Nebula) which is the second brightest nebula in the sky. On a moonless night from the Briars, the Carina Nebula is easily spotted with the naked eye. Lying about a hand's width above the Southern Cross, you will see 2 patches faintly glowing, the upper one is the Carina Nebula and the lower is the Pin Cushion Cluster. The Carina Nebula, being about 2.5 degrees across, looks good in any size telescope. To see the full nebula it's best to use the MPAS 127mm refractor (FL 1 metre) with a 40mm Plossl eyepiece. This combination gives us 25 times magnification and a field of view 2 degrees, whereas the MPAS 350mm Meade with 35mm eyepiece will only show a small section of the nebula. The central part of this complex nebula is called the Keyhole Nebula next to the bright yellow star Eta Carinae. Stars are named in order of brightness using the Greek alphabet. The brightest star in any constellation is Alpha and second brightest is Beta and so on. Eta is the seven letter in the Greek alphabet, but currently Eta Carinae isn't the seventh brightest star in Carina and isn't even visible to the naked eye. This is because Eta Carinae was named during a time when the star was going through one of its outbursts, shining many times brighter than today. Looking at the star Eta Carinae with high magnification you will see a glowing disc around the star, but off to the side; this is the Homunculus Nebula, which is a planetary nebula created by one of the star's outbursts.

Below I have overlaid the names of the most popular objects on this image of the sky around the Southern Cross.

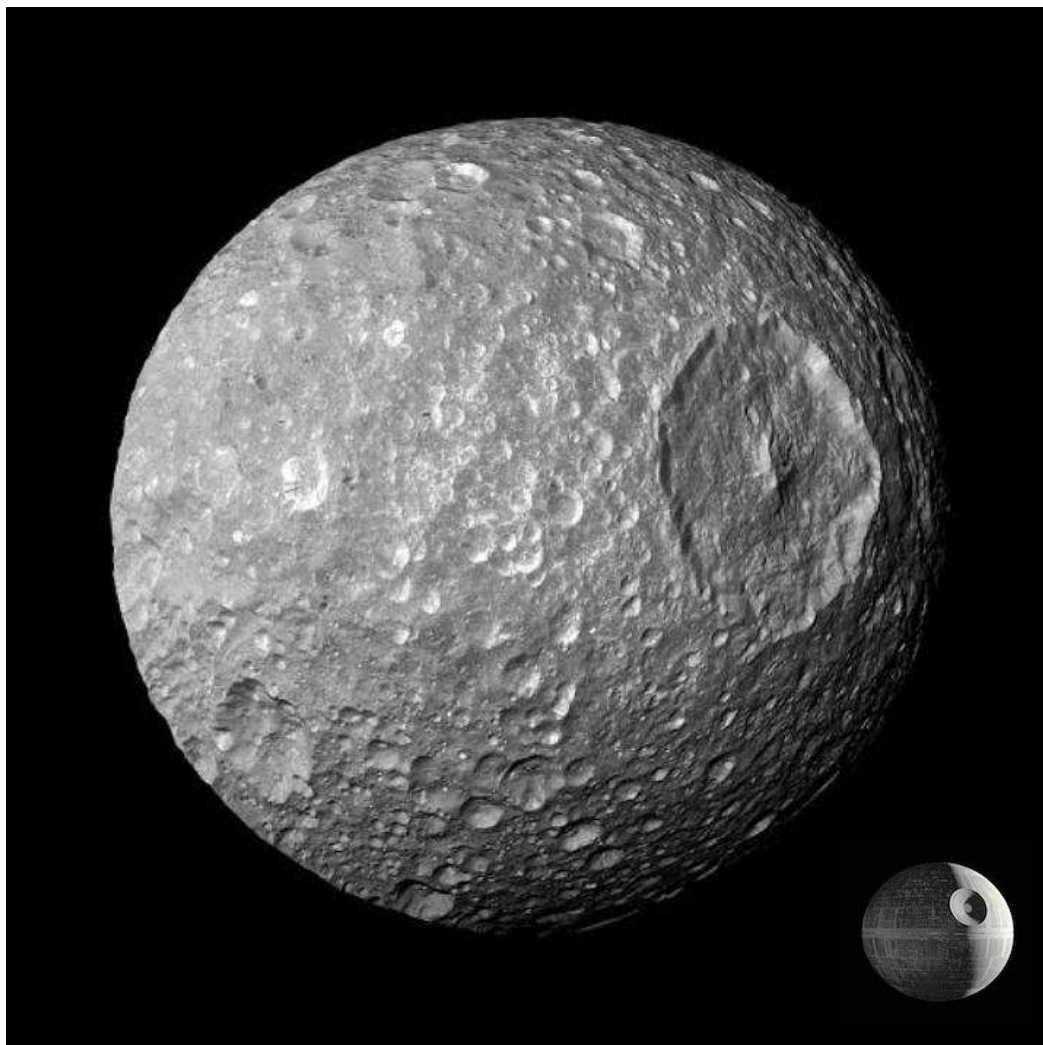


Eta Carinae Nebula imaged with the 8 inch Newtonian and 127mm refractor. Both telescopes have the same focal length of 1 metre.



## Death Star moon Mimas has a hidden ocean

All these years, Saturn's small moon Mimas has had a secret. Beneath this little moon's heavily cratered surface lies a global ocean of liquid water. Astronomer Valéry Lainey of the Observatoire de Paris-PSL and his team made this discovery by analysing data from the Cassini spacecraft, which orbited Saturn, weaving among its moons, from 2004 to 2017. The work reveals a "young" ocean formed just 5 to 15 million years ago, making Mimas a prime target for studying the origin of life in our solar system. Lainey and team published their work in the peer-reviewed journal Nature in February 2024.



*The most significant feature on Saturn's Death Star moon Mimas is its Herschel crater, which stretches 1/3 of the way across the little moon's face. The crater is the reason Mimas carries a nickname for the fictional gargantuan space station – armed with a planet-destroying superlaser – in the Star Wars franchise.*

*Image via NASA's Cassini spacecraft on its closest-ever flyby of Mimas.*

Astronomer Nick Cooper, at Queen Mary University of London, is a co-author on the study.

He commented:

Mimas is a small moon, only about 400 kilometres in diameter. And its heavily cratered surface gave no hint of the hidden ocean beneath. This discovery adds Mimas to an exclusive club of moons with internal oceans, including Saturn's moon Enceladus and Jupiter's moon Europa. But with a unique difference: Mimas' ocean is remarkably young, estimated to be only 5 to 15 million years old.

Astronomers confirmed the existence of Mimas' ocean – and the young age of the ocean – through detailed analysis of tidal interactions between Mimas and Saturn. In other words, Saturn's gravity squeezes the little moon, as the moon orbits the planet. The work suggests the ocean formed recently. And it's only been recently that two other Saturn moons – Enceladus and Tethys – disturbed Mimas' orbit, sending it into an orbit that would allow Saturn to squeeze it so effectively.

Scientists say the young age of the ocean gives them a unique window into the early stages of ocean

formation and the potential for life to emerge. The existence of a recently formed liquid water ocean makes Mimas a prime candidate for study, for researchers investigating the origin of life. The scientists made the discovery by closely examining the subtle changes in Mimas' orbit, and the researchers were able to infer the presence of a hidden ocean and estimate its size and depth. The existence of an ocean in such a small moon suggests that even small, seemingly inactive moons can harbor hidden oceans capable of supporting life-essential conditions.

Mimas has now become the smallest moon known to harbor a hidden ocean of liquid water beneath its icy surface.

# YOUR ASTRO QUESTIONS



## Can we see Sirius B, which is Sirius A's companion star?

Sirius is the brightest star in the sky at -1.44 magnitude and has twice the mass of our Sun, but 20 times brighter than our Sun. Sirius is also named the Dog Star, because it's the brightest star in the constellation Canis Major (large dog). As far as stars go Sirius is close to Earth at 8.6 light years, about twice the distance to Alpha Centauri, which is 4.3 light years away. Being the brightest star, Sirius has been studied very closely and once the telescope had been invented, it was realized that Sirius moved slowly across the starry background. This happens because Sirius is closer to Earth, therefore its apparent movement is much greater than other more distant stars. In about 60,000 years Sirius will become the southern hemisphere's pole star.

The astronomer Bessel was the first to determine the distance to Sirius, using the parallax method. By measuring the position of Sirius in the sky at 6 months intervals and then comparing the measurements. With a bit of trigonometry, he worked out the distance to Sirius. Bessel continued to perfect his measurement of Sirius and soon realized that Sirius didn't move at a regular speed across the starry background; it appeared to speed up and slow down. Bessel concluded that Sirius must have a companion star that was making Sirius wobble back and forth.

In 1862 the great telescope maker Alvan Graham Clark was testing a new telescope on Sirius and spotted a small star next to Sirius, at first he thought there was something wrong with the new telescope. But after much re-testing of the lens, Clark found the lens to be perfect. Clark had accidentally found Bessel's companion star and continued to study the star and found it had a magnitude of 8.4. Nowadays Sirius A's companion is named Sirius B.

Sirius B is a white dwarf with a diameter of only 11,000 kilometres (smaller than Earth) and a surface temperature of 10,000 degrees, that's almost 3 times hotter than our Sun. By measuring the wobble of Sirius, it was determined that Sirius B would have a mass equal to our Sun, making Sirius B 530,000 times more dense than Earth. Sirius B density is equal to 3 billion kilos per cubic metre, meaning a 1 dollar coin would weigh 2 tons.

Sirius B takes 50 years to orbit Sirius A. The distance between Sirius A and Sirius B varies from 8.3 to 31.5 AU and it just so happens that in 2023 to 2024 Sirius B is at its greatest distance from Sirius A.

Measured in degrees it's only 12 seconds of arc or equal to about 1/3 the diameter of Jupiter, as seen from Earth. The light blue line, Jupiter's circumference, indicates the diameter of Jupiter. If we look at Jupiter first, this will give you an idea of how far the 2 stars are separated.

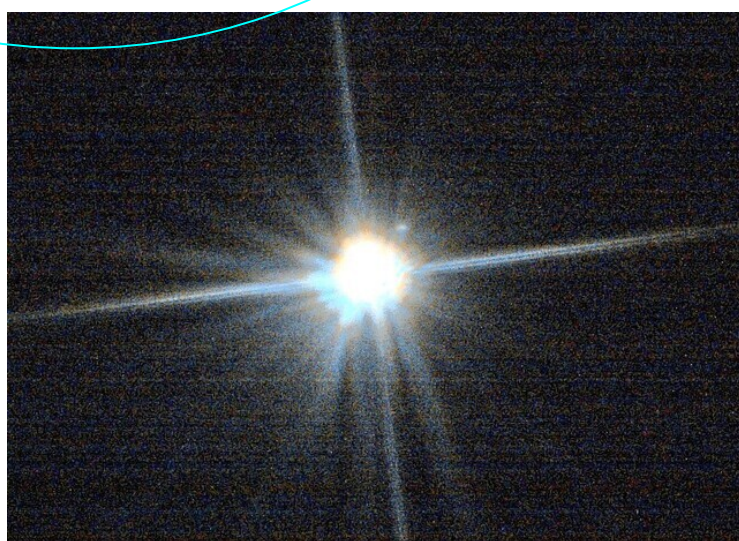
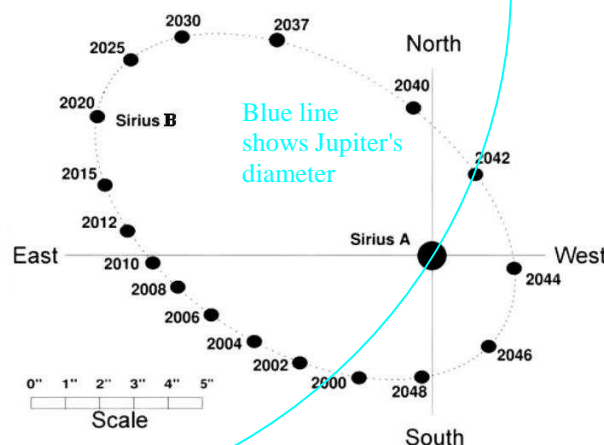
Seeing Sirius B through a telescope is almost impossible, as Sirius A is very close and overwhelmingly bright, in fact it's about 10,000 times brighter than Sirius B. Only the very best telescope and an experienced astronomer can have any chance of seeing Sirius B. I read a few articles on viewing Sirius B and most recommend a 100mm telescope running at 150 times magnification and masking off part of the eyepiece. After trying these methods over many nights and failing, I gave up and thought there must be a better way.

After much experimenting, I found the easiest way to view Sirius B is with an H-beta filter, 14mm eyepiece fitted to the MPAS 350mm Meade F10 telescope (focal length of 3.5 metres). This light bulb moment came about after viewing nebulas with nebula filters. I noticed that the stars were dulled down considerably with the nebula filters. The LPR, UHC, and OIII filters didn't work, but the H-beta filter, which is normally used for the Horsehead Nebula, did work. What I saw through the eyepiece was, that Sirius B was a tiny pinpoint of red light next to Sirius A. I also found the telescope must be perfectly collimated.

**Imaging Sirius B is a challenge.** You need perfect seeing conditions, long focal length and fast shutter speed.

**Right** - Sirius A and B, Dog and Pup. Imaged with 8-inch F5 Newtonian with 5 times Barlow. Camera settings for this single shot are 200th of a second at ISO 100. *By Chris Kostakanellis*

Looking at Chris' image, you can see Sirius A is flaring to the side and if Sirius B was on that side it would not have been seen.



	Sirius A						Every step up in Magnitude is 2.512 times fainter.						Sirius B	
Magnitude	-1st	0	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
Times fainter	+2.5	0	-2.5	-6.25	-16	-40	-100	-255	-640	-1,609	-4,042	-10,153		

# YOUR STORIES



## The Long Story

Back-story: Many moons ago, an avid amateur astronomer, 'Joe', had a penchant for both modern short and classic long tube refractors. Having a preference for clean colour-free images he managed to convince Barry Adcock to make one of each using fluorite glass as part of the lens sets.

After sourcing glass blanks the painstaking work of grinding, polishing and figuring proceeded, resulting in Barry creating a 152mm f8.3 fluorite triplet and a 152mm f15 fluorite doublet. Barry also made the lens cells and focusers to produce complete tube assemblies. Joe delighted in using these for many years till health issues intervened and the telescopes were eventually listed for sale.

Around mid 2022 I came across an advertisement for a classic long refractor telescope. A very special one, custom ordered by an avid amateur (Joe); it was a 152mm f15 with a fluorite doublet lens set. I am fascinated by the appearance of old school long refractors and this thing listed for sale preyed on my mind. After many nights of dreaming seated at the eyepiece, with that long tube directed at the Moon or Saturn, I enquired about the telescope. It was still for sale and so arranged to check it out and view at night. Then it was mine :)

I decided to refinish the telescope to make it like new. Old Velcro pieces and tapes and glue were removed and the tube dismantled into the 5 sections consisting of the dew shield, lens cell, tube section one, tube section two and the focuser.

Paint was stripped then all parts sanded then primed in grey and finished in Dulux Epoxy Enamel pressure packs. I was dubious about the claim by Dulux that this paint was 'Epoxy' as every epoxy I have used previously has been two part, consisting of a base and a hardener.

I decided to try it regardless and sprayed black on the lens cell and focuser and white on the tubes. What a lot of fun that was. A nice sunny day and no wind for my open air spraying and all went fine, till one after another, various insects decided to land on the white painted parts.

Hmmm, I thought, you should really let them dry out as the paint cures and brush them off later. Fate tempted me and I removed one insect with a pin and as expected I created a mess in the glass smooth finish. 'No worries' is the phrase that fixes everything, so I proceeded to spot spray the mess in an attempt to let the paint flow and flatten. That didn't go well as in error I grabbed the wrong can and promptly released black paint onto the white surface.

An abundance of colourful words followed, while stripping all the paint off that one-meter section of the telescope tube using thinner soaked rags. Often when I take a shortcut, I have already predicted the possibility of a disastrous outcome but still proceed with the shortcut. I wonder if other people experience this too? It cleaned up fine and was resprayed gloss white.

Three days later, all the painted surfaces were still tender and easily marked with a fingernail or strong finger pressure.

I Googled 'Dulux Epoxy Enamel' and found many online complaints about this paint not curing.



Wonderful. So for three weeks all the parts were put into a bathroom, with two 1000W fan heaters running day and night. And ever so slowly the paint cured.



Great, time to assemble, the focuser and tube sections were screwed and bolted together then placed into the open tube rings, ready to mount the lens cell. After mounting the lens cell and rotating the tube in the open rings, I discovered to my horror: the rings had gouged the gloss white paint. Still not hard!

Perhaps the paint thickness had increased from original? Did the tube rings need attention? Hmmm, a visit to Greg led to the discovery that the rings were out of round, pinching the tube at the hinge point of the rings and also a little too tight in internal diameter. Greg machined the rings for correct diameter and roundness.

I stripped and repainted that one-meter section of tube for the second time, and left the paint to cure for 4 months after another few weeks in the heated bathroom.



Final assembly went well. The original single speed focuser was removed and Greg made an adapter to fit a Williams two speed focuser.

The telescope is a magnificent thing sitting on a locally made Anssen Alhena mount, rated to carry around 60kg, and a home-made mobile pier. The refractor weighs 15kg and is 2500mm long in viewing setup. In the photo, my father stands beside it for scale.

A long focal length refractor idles along at medium to high powers with comfortable eyepieces, like a lazy big V8.

It's a classic old school photon drinking straw of refractor goodness and gives marvellous Moon and planetary views.

Thanks to Joe, Barry and Greg :)

*By Mark Hillen*



# MEMBERS GALLERY



## Right -

Jupiter from NYE. Who said being stuck at home in isolation with COVID is a bad thing? Taken while fireworks were going off in the distance, late in the session at 11.15 pm, you can see the Great Red Spot with its central oval and turbulence in the south equatorial belt. C14 with ASI485MC and x1.5 Barlow, AS4, RegiStax and Winjupos finished off in PS.

*By Dominic Lucarelli*



## Right -

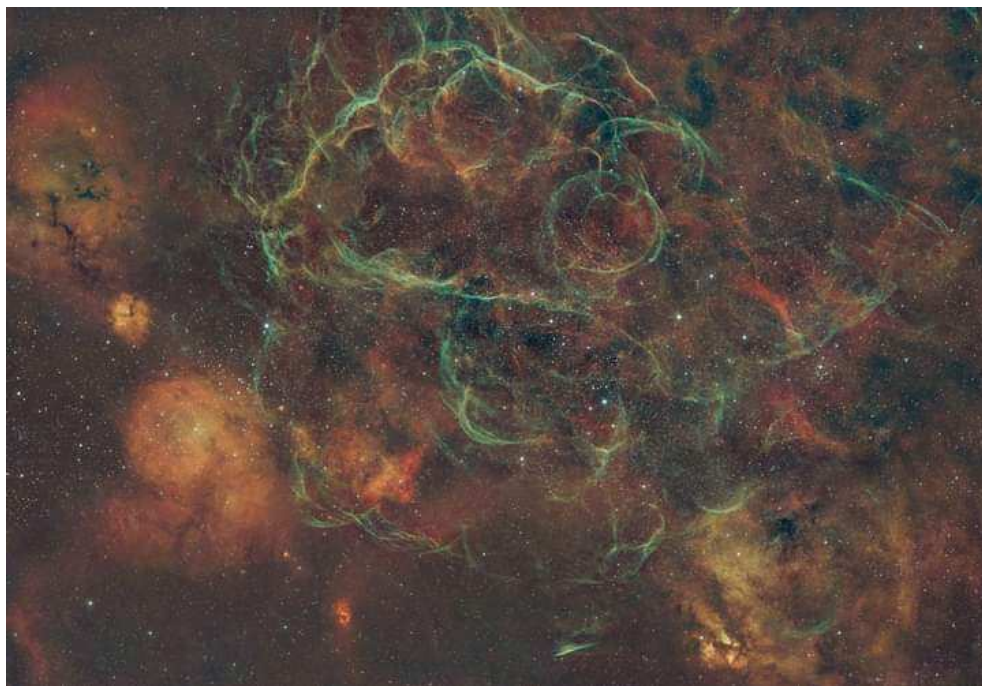
When I get some time and some cooler weather, I'll go take calibration frames for this and re-process. Vela Supernova Remnant. Taken last night under an overbearing Moon. 25 lights @300s each. Samyang 50mm lens paired with ASI533 and the L'Ultimate filter. Processed in PI. Tweaked in LR.

*By Kelly Clitheroe*



**Right** - Vela Supernova Remnant - A Southern Hemisphere target

This was a massive project taking 2 seasons to obtain 14 panels of images in order to create this massive mosaic. Taken over many nights over 12 months it has been a huge undertaking of patience and frustration. All up about 103MP. Images captured with the ZWO ASI294MC Pro. Optolong L-Ultimate Mosaic planned in The ASIAIR Plus and Pro Skywatcher NEQ6 Pro mount belt modified and of course the ASKAR FRA300 Pro telescope. Used darks but no flats Graxpert and the light pollution method in Astropixel processor negated the sensor pattern of the 294MC Pro. Stacked in Astro Pixel Processor, attempted the mosaic function but for some reason it just didn't like it. Took all the panels into PixInsight, cleaned them BlurX NoiseX, Graxpert then saved them as TIFF files and used the Panorama function in Photoshop. Then reintegrated them into PixInsight to process etc. Final touch-up in Photoshop. The processing alone took a few weeks getting all the panels together. It's DONE! Astrobin <https://www.astrobin.com/5vmiqg/>



By Nik Axaris

**Right** - Thor's Helmet (NGC 2359)

7.8 hours over 2 broken nights (thanks Melbourne)  
47x 600 sec acquisitions  
Lies near the Seagull Nebula it's a lovely target.  
TS Photoline APO 130 Riccardi 0.75x reducer  
ASIAIR Pro  
Stacked in Astro Pixel Processor extracted Ha and OIII processed in PixInsight and Photoshop recombined them using the Foraxx script. Added the HO luminance as well.  
Optolong L-Ultimate  
ZWO ASI294MC Pro camera

By Nik Axaris

**Cover image** -

This has to be the most difficult target I have imaged so far and it needs a lot of data as it is faint and not well catalogued. CG4 the Hand of God or, as a fellow Astrophotographer (Logan) would like to call it, The Giant Space Slug.  
It looks like it's devouring that galaxy called PGC 21338 or, as I would like to call it, Lunch!  
22x15 minute subs. I think it needs triple that as it needs a LOT of data. Especially in Bortle 6 skies.  
ZWO 294MC Pro, ASIAIR  
TS Optics 130 APO Riccardi reducer 0.75 - Optolong L-Ultimate  
Skywatcher NEQ6 belt modified and guiding on average at 0.3-0.6 which for this scope and time was excellent. There will be updates when we have the next run of clear weather.

By Nik Axaris





# MO PHO CHALLENGE

Chris Kostakanellis



## Astro Mo Pho challenge for December / January Xmas themed objects.

### Right -

NGC2170, the Angel Nebula, a reflection nebula in Monoceros.

Distance: Approx 6500 LYs.  
55 x 10 minute exposures over  
2 nights.

200mm F4 Newtonian, Antila  
Tri Band Filter, ASI 294 MC  
Pro.

I also imaged this a few weeks  
ago with my 80mm refractor.

*By Chris Kostakanellis*



Below are the images from last month's Astro Mo Pho challenge, Dark Nebulae.  
Congratulations to all participants for completing this challenge.

Our next challenge is "Artificial Satellites". We're talking ISS, Tiangong, Starlink, Discarded boosters, weather satellites etc. Use apps and sites like "Heavens Above" to time your shots, and "ISS Transit Prediction Finder" on Android to find any ISS transits. **ONLY PHOTOS OF IDENTIFIED SATELLITES WILL BE ACCEPTED, OR PARTICULARLY INTERESTING PHOTOS.** Please don't send random streaks, **UNLESS** you have tried to identify it but were unsuccessful, in which case you have a UFO!!  
*Clear skies. Chris Kostakanellis*

## Astro Mo Pho challenge for January / February is the dark nebulas.

### Right -

This is of the Horsehead and Flame  
Nebulae, in Orion's Belt.

The Horsehead and the dark  
filaments in the Flame are dark dust  
and gas where new stars are being  
born, which block out the glow of  
the Nebulae behind them,  
150 minutes of exposure from the  
back yard.

*By Chris Kostakanellis*



**Right -**

This is the Dark Doodad Nebula, which some of you may recognize as Mr January from the 2024 Astronomy Calendar we sell at MPAS (although not as skilfully imaged).

Designated as Sandqvist 149 amongst other things, it is a collection of gas and dust that is the closest star-forming region to our solar system, and is located around 12 deg. south of the Southern Cross.

This image is 250 min of exposure (25 x10 min) using my 80mm refractor, Optolong L eXtreme filter (to cut out the light pollution) and ASI294 MC Pro camera, imaged on Sunday night.

PS. The Globular Cluster is NGC 4372.

*By Chris Kostokanellis*

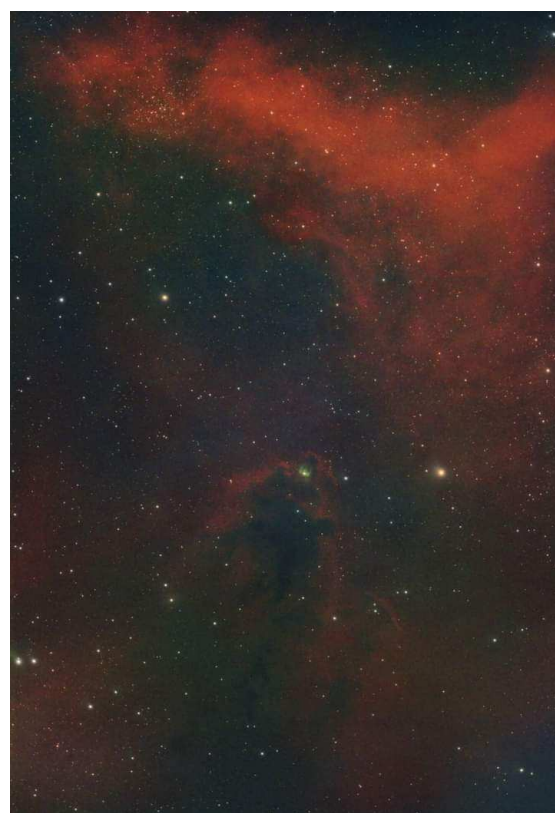
**Right -**

Dark Nebula LDN 1622, The Boogeyman in Orion.

The Boogeyman sits just outside of Barnards Loop, which is the red band at the top of the photo.

This is 95 minutes of exposure, 80mm refractor with 0.8 reducer, Optolong L-eXtreme Filter, and ASI 294MC Pro Camera. Processed in Siril.

*By Chris Kostokanellis*

**Below -**

Here is one more that I recently imaged in the constellation of the Chameleon, near the South Celestial Pole.

It is the Chameleon Cloud Complex. 255 mins of exposure, (5 min subs), 80mm refractor, 0.8 reducer, Antila Triband Filter, ASI 294 MC Pro.

*By Chris Kostokanellis.*



**Right -**

Horsehead Nebula

Some old data reworked with better techniques.

TS- Photoline apo 130 f7  
 Optolong L-Pro Filter  
 Altair 0.6 reducer  
 60 x180 sec subs  
 ZWO ASI 294MC Pro  
 ASIAIR  
 NEQ6 Pro

Stacked in Astro Pixel Processor,  
 reprocessed with PixInsight, all the  
 Russel Croman addons and some  
 final processing in Photoshop.

*By Nik Axaris*

**Right -**

Carina Nebula starting to dominate the southern skies.

26 x 500 and 5 x 600 seconds  
 Skywatcher 72ED x0.8 reducer.  
 Optolong LeXtreme  
 HA and OIII channels separated to make an HOO  
 image and processed in PixInsight with HA as a  
 luminance layer.  
 ZWO 294MC Pro camera  
 ASIAIR.

*By Nik Axaris*

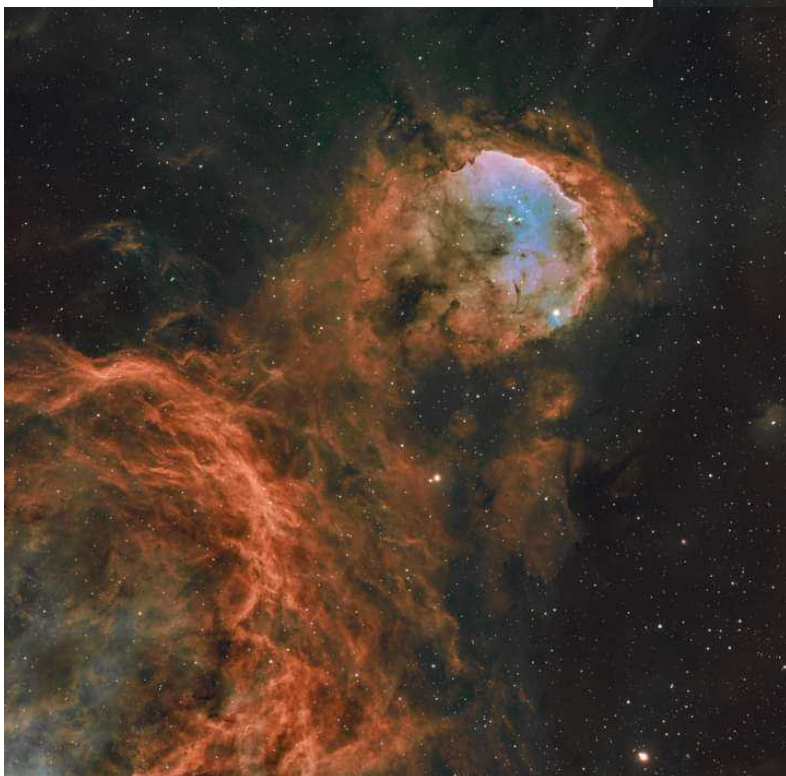
**Left -**

Gabriella Mistral, part of the Carina Nebula

TS-Optics 130 APO  
 Riccardi 0.75 reducer  
 40 x 600 seconds over a few nights on and off  
 Optolong L-Ultimate  
 ZWO 294MC Pro  
 ASIAIR

Channel separation in Astro Pixel processor  
 Processed in PixInsight using the Foraxx palette

*By Nik Axaris*



**Right -****Southern Tadpoles**

Near the Carina Nebula and Statue of Liberty Nebula, still an early morning target in our southern skies. A mixture of old and new data mainly because of our shocking run of summer weather.

34x600 seconds

Optolong L-eXtreme

ZWO ASI294MC Pro

ASIAIR Pro

TS Optics Photoline 130 APO

Riccardi 0.75 reducer

Extracted HA from RGB using Astro

Pixel Processor, then used the HA

layer as a luminance layer in

PixInsight.

*By Nik Axaris*

**Right -****Cometary Globule 4 (CG4)**

Taken over three nights, this very dim target called Cometary Globule 4 (CG4) is located in the southern constellation Puppis. It is also known as the Hand of God.

A very dim target it looks like a giant worm about to devour a galaxy called PGC 21338.

Approximately 14 hours of acquisition, each 15 minutes long.

This has to be the most difficult target I have imaged so far. Bortle 6 skies.

ZWO 294MC Pro

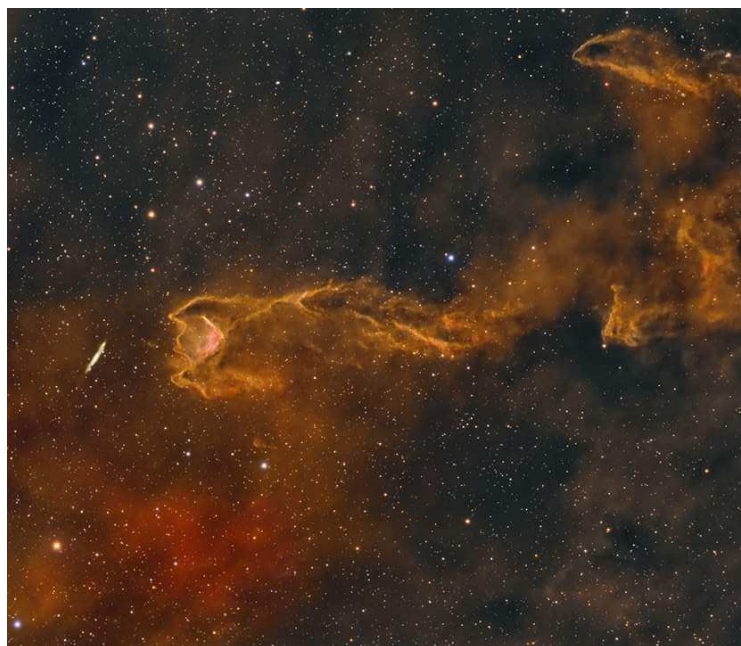
ASIAIR

TS Optics 130 APO Riccardi reducer 0.75

Optolong L-Ultimate

Skywatcher NEQ6 belt modded and guiding on average at 0.3-0.6 which for this scope and time was excellent.

*By Nik Axaris*

**Right -**

This is one I only found out about a week ago, the Skull and Crossbones Nebula, AKA NGC 2467.

This is nearly 12 hours of data over 2 nights.

HOO using the Foraxx palette.

I think it worked out ok, but can't see where the skull and crossbones are.

*By Nik Axaris*



**Right -**

Had to wag last night to find time to capture an Astro Mo Pho for this month.

Lack of imagination, but here is a Ha image of the Horsehead. 10x 5 minute subs used in the end as the rest was photo-bombed by satellites and light cloud!

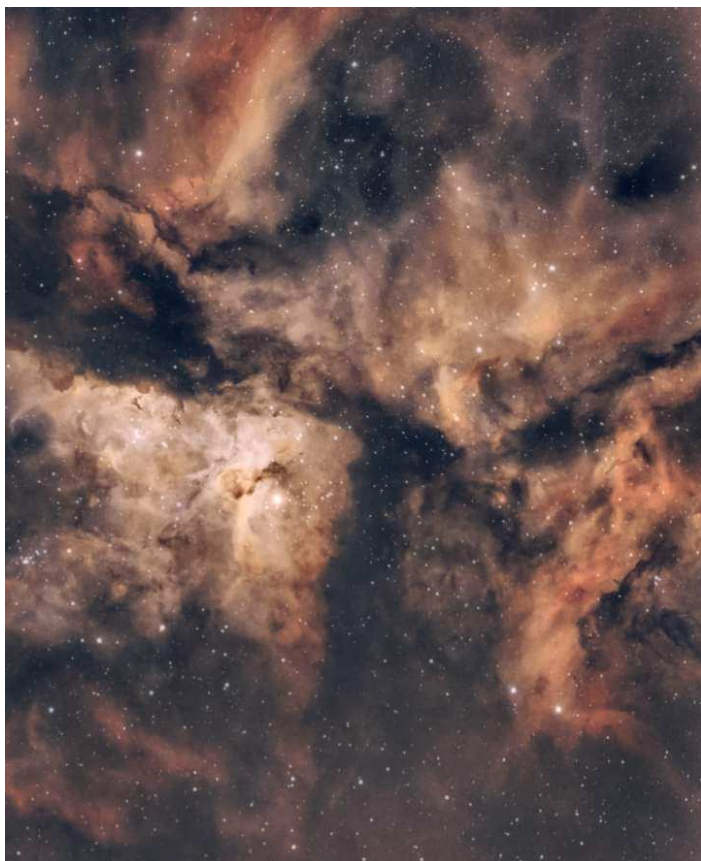
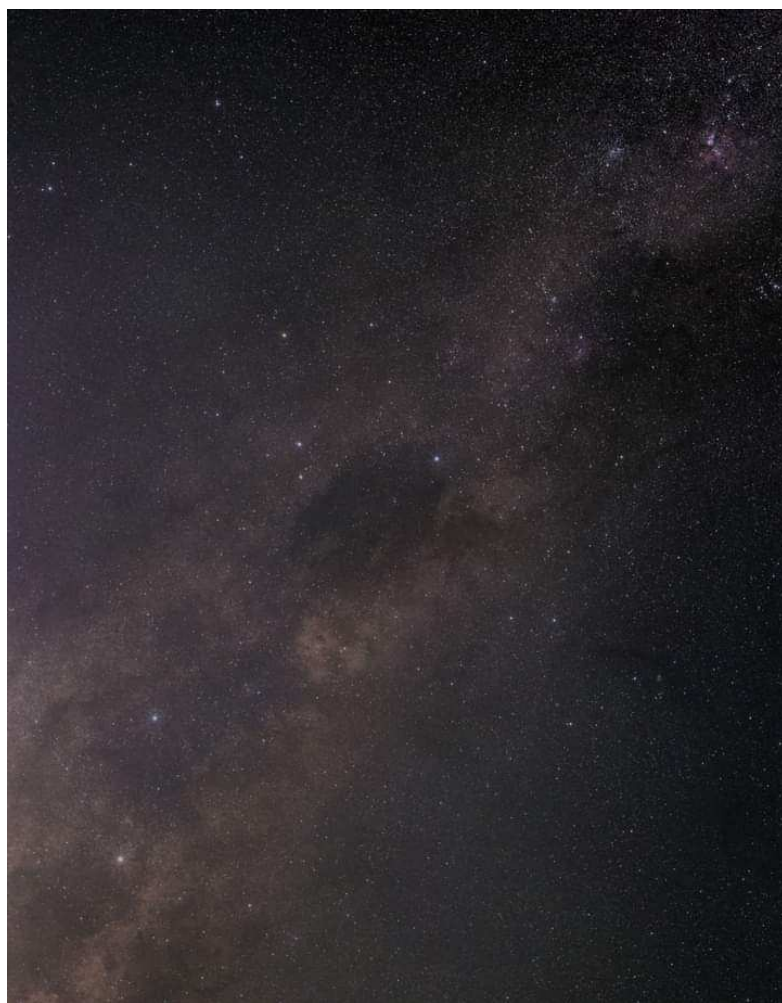
*By Dave Rolfe*

**Right -**

Something for the Astro Mo Pho, the Coalsack in Crux. I like this one as you can see it under the right conditions from the outer suburbs and definitely across the Peninsula with no equipment at all and it gives some great texture to the southern parts of the sky.

Middle image you can also see some other dark nebula including the Dark Doodad  
6 minute subs (50 of) with 50mm 1.8 on Canon 6D. No filters but probably something I should look at investing in.  
DeepSkyStacker with Photoshop and Starnet for processing

*By Chris Black*

**Left -**

Collowgullouric War (pronounced Waa) - The Raven's Wife. The Dark nebula and dust in the Eta Carinae nebula were noted by the Boorong People of North-Western Victoria as looking like a raven in flight. Her husband, War (European name - Canopus) and she, fly together in our southern skies. Astro Pho Mo submission.

*By Kelly Clitheroe*

**Right -**

NGC2024 Flame Nebula with B33 the Horsehead Nebula, near the bright star Alnitak which is one of the stars in Orion's Belt.

Telescope used was the 8-inch Newtonian on EQ6 mount in the Briars observatory.

Camera Pentax K30 - 30 shots at 30 seconds ISO 12800. Stacked on Deep sky stack.

I selected the area around the bright star Alnitak and inverted the selection, then I adjusted the contrast. This stopped Alnitak from being over brightened.

*By Greg Walton*



B33 imaged 8 inch Newtonian EQ6 Pentax K30 30x30sec iso12800 Briars 8Feb2024 by Greg Walton

**2 images below -**

NGC2024 Flame Nebula with the bright star Alnitak and B33 the Horsehead Nebula.

Telescope used was the 350mm Meade Cass & 70 percent focal reducer (FL 2500) on EQ8 mount in the Briars observatory.

Camera Pentax K30 - 30 shots at 30 seconds ISO 25600 - Stacked on Deep Sky Stacker. *By Greg Walton*



NGC2024 imaged with Meade 350mm F10 EQ8 Pentax K30 30x30sec iso25600 8Feb2024 by Greg Walton



B33 imaged with Meade 350mm F10 EQ8 Pentax K30 30x30sec iso25600 8Feb2024 by Greg Walton

**Below left - M78**

Telescope used was the 8 inch Newtonian on EQ6 mount in the Briars observatory.

Camera Pentax K30 - 30 shots at 30 seconds ISO 12800 - Stacked on Deep Sky Stacker. *By Greg Walton*



M78 imaged 8 inch Newtonian EQ6 Pentax K30 30x30sec iso12800 Briars 8Feb2024 by Greg Walton

**Below right - M78**

Telescope used was the 350mm Meade Cass & 70 percent focal reducer (FL 2500) on EQ8 mount in the Briars observatory.

Camera Pentax K30 - 30 shots at 30 seconds ISO 25600 - Stacked on Deep Sky Stacker. *By Greg Walton*



M78 imaged with Meade 350mm F10 EQ8 Pentax K30 30x30sec iso25600 8Feb2024 by Greg Walton

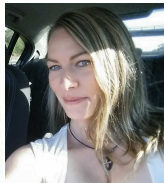
SOCIETY INFORMATION



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Chris Kostokanellis



Nerida Langcake



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Anders Hamilton



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Simon Hamm



Phil Peters




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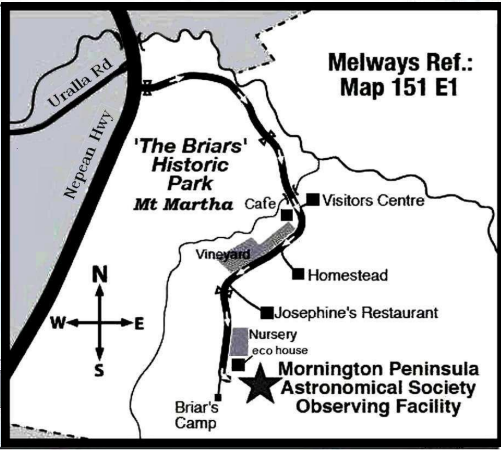
SOCIETY MEETINGS

**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](http://www.mpas.asn.au)  
 email: [welcome@mpas.asn.au](mailto:welcome@mpas.asn.au)

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



Fred Crump

LIBRARY

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 or Lara Conway

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](mailto:welcome@mpas.asn.au) say that you want to join E-Scorpius & you will be added to the E-Scorpius list.

**facebook** MPAS members - <https://www.facebook.com/groups/MPAS1/>  
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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:**  
 Internet: [www.mpas.asn.au](http://www.mpas.asn.au)  
 email: [welcome@mpas.asn.au](mailto:welcome@mpas.asn.au)

**Phone:** 0419 253 252  
**Mail:** Mornington Peninsula Astronomical Society  
 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 [gwpas@gmail.com](mailto:gwpas@gmail.com)  
 MPAS newsletters online - [https://drive.google.com/folderview?id=0BvykxzZG19g\\_SUNmZVhkZTFGWTA](https://drive.google.com/folderview?id=0BvykxzZG19g_SUNmZVhkZTFGWTA)

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