Summer 2018 Number 20

Kielder Observatory Newsletter

NEWS
New events for September

NIGHT SKY
Highlights Aug/Sep/Oct

OBSERVING
Summer constellations

TRAVELOGUE
Robert Williams goes back to Namibia

EDITORIAL

The summer heatwave has brought with it clear skies, perhaps not at the best time for seeing those faint fuzzy galaxies, but our visitors have had great views of the moon and planets. Ironically, after all that nice weather the North East was blessed with thunder and lightning for the eclipse of the moon at the end of July - c'est la vie! In this edition, my fellow editor Robert Williams goes off on his travels again, whilst volunteer Steve Brown takes a look at the lesser-known Summer constellations.

Nigel Metcalfe

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Kielder Observatory Astronomical Society

Registered Charity No: 1153570.

Patron: Sir Arnold Wolfendale 14th Astronomer Royal

Kielder Observatory Astronomical Society is a Charitable Incorporated Organisation. Its aims are to

* Promote interest in the science of astronomy to the general public
* Facilitate education of members of the public in the science of astronomy
* Maintain an astronomical observatory in Kielder Forest to support the above aims

http://www.kielderobservatory.org

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A WORD FROM THE CEO

As we head out of July we gradually start to see the dark skies returning to the Kielder Observatory. This will mark a new

horizon for us – the Gillian Dickinson Astro-imaging Academy will start to turn its significant array of instruments skyward. The science team at the observatory are very excited by this to say the least and they have all worked tirelessly to ready the facility for its task that lies ahead. Equipped with its CCD cameras and computer hardware it will I'm sure be the source of much excitement from staff volunteers and ultimately our guests. I for one cannot wait for the team to produce images and even science that will make us all proud. The new observing season also marks the beginning of our enhanced delivery of events. From September we will be running events from 5pm till 7pm every night of the week. These new events will be themed on basic principles in astronomy will be priced accordingly - so as to increase and build upon our reach into the community in a sustainable and affordable way. That's not all – we are also starting our new educational outreach programme for the next academic year. Working with the Tees Valley group we will be going into schools for 18 full weeks inspiring students at the transition stage to think about science and to engage their minds into the wonders of our universe – to achieve this we need more human resource.

Recently I was given the go ahead from our team of trustees to start recruiting for the new challenges that lie ahead. Our first appointment is Alan Martin who joined us on the 20th July – Alan has a wealth of experience as an amateur astronomer for over 25 years and I know the team will be stronger for Alan's experience – coupled with his friendly and approachable manner he will be an asset for KOAS for years to come. Then I need to recruit 2 more scientists to help with our massive programme of events at the facility and in schools what an exciting year this promises to be.

So all in all as you can see we have a wonderful and exciting year ahead of us and I'm sure the staff volunteers and guests will form some life-lasting memories .

Gary Fildes (FRAS MSc Hon.Caus.)

KOAS NEWS

TRUSTEE NOTES

Our long standing trustee Jacqui Miller-Charlton MBE stood down at the beginning of June due to her increasing business commitments. Jacqui has done sterling work for the Observatory over the past few years and her enthusiasm for the project will be greatly missed.

The trustees held another 'away day' at the end of June. Looks like these are becoming popular! With the increase in the educational programme, and expanded facilities at the Observatory, it is likely that the trustees will be meeting more regularly in the future than the current quarterly schedule.

For those who wonder what the trustees actually do, at this time of year efforts are very much focussed towards signing off a budget for the forthcoming year (the charity's financial year runs from the start of September), a tricky task involving balancing anticipated income against anticipated expenditure!

A word from the chair ...

The Epsilon Eridani system (ε Eri) is 10.5 light-years away - so the light reaching Earth from there today began its journey in the months leading up to the very first public observing events at the our amazing Kielder Observatory in 2008.

Ten-and-a-half years later, we stand on the brink of even more exciting developments, as our growing staff team prepares to launch a new series of early evening events, exploit the Gillian Dickinson Astro-imaging Academy to its full potential, and further expand our educational offer for schools.

The scale of KOAS' operations in its tenth anniversary year bears little resemblance to the unincorporated organisation that hosted those first events in 2008. With our milestone birthday now behind us, the trustees and staff will be working closely together over the next few months to ensure we have the staffing, facilities, equipment and procedures we need to meet the challenges of our future expansion as successfully as those in the first decade of our operations.

We cannot, of course, predict the scale of KOAS' operations when our next milestone birthday comes along and today's events on ε Eri become visible to astronomers on Earth. We are determined, however, to extend our promotion of public interest in astronomy, facilitate more widely accessible astronomical education and provide high quality and fully accessible observing opportunities in the unique and captivating environment of Kielder forest.

Peter Standfield

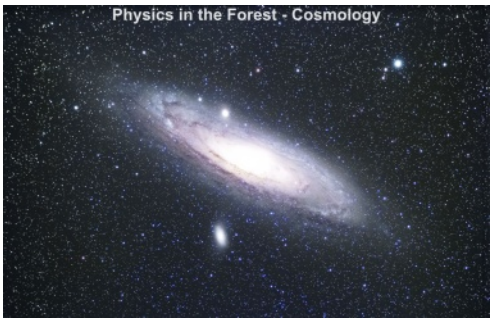
Guests observing the Moon and Venus

We have welcomed a couple of new faces to the science team since the last newsletter - Natasha Lund, who started with us on 7th May, and Alan Martin who joined on 20th July. Natasha is an observational astronomer currently studying part-time for a BSc in Physics at the Open University. She has a particular interest in astrophotography, and was a volunteer at the Observatory before joining the staff. Alan has been a keen amateur astronomer since he was given a two inch refractor for Christmas when he was seven. He attended the first Kielder star camp, met Gary and a few other members of Sunderland Astronomical Society and decided to join. He started volunteering at the Observatory this time last year together with his oldest son, James. Alan says "I am thrilled to be joining the staff, I have worked the last thirty years as a plumber, so this is quite a change for me".

The opening of our new observatory has allowed us to expand our events programme right through the summer months and beyond. Our new series of

OBSERVATORY NEWS

events 'Physics in the Forest' is well underway and is designed for the guest who wants to learn that little bit more. We will delve deep into a current topic in Astronomy and discuss the science



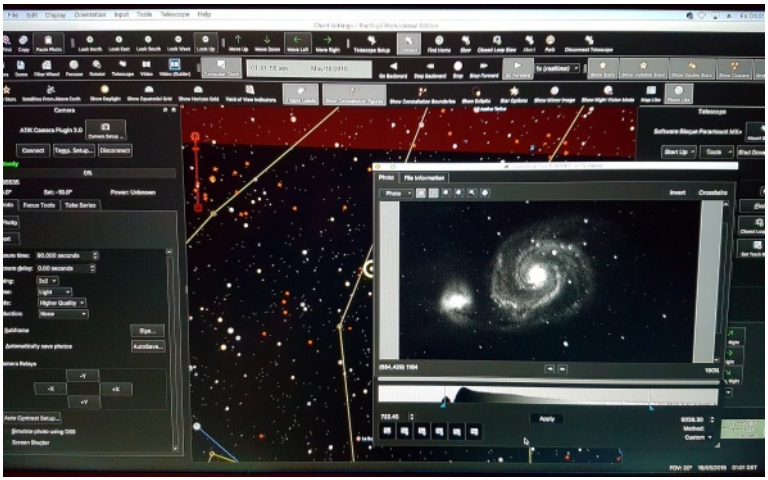
behind the headlines, while keeping things understandable. Two titles are running at the moment...

- Exoplanets: The search for Earth 2.0 explores the field of Exoplanet Astronomy and what factors made the Earth such a haven for life.
- Cosmology: The Observations which changed the Universe looks at some of the more recent major discoveries that have changed our outlook on the Universe.

These events generally run on Friday and Saturday nights, starting around midnight.

September sees the beginning of another new programme of events entitled 'Introduction to Astronomy'. These take place between 5 and 7pm on most days of the week. Suitable for the whole family, these events are designed to inspire people of all ages, with our fun and interactive learning experience. The various topics include 'Navigating the Sky', 'Solar System', 'Telescope Workshop' and 'Earth in Space'. We will have a series of short and snappy sessions to cover the basics and there will be worksheets and information guides to take away - and, of course, observing the sky through our telescopes if the weather is clear, and if it isn't we have the

Not been to Kielder Observatory yet?
Then why not book one of our events for you or your family?
Advanced booking is essential. Weekend events can fill up several weeks in advance. Please book online at http://www.kielderobservatory.org/events/ or call us on 0191 265 5510. We can also be contacted at admin@kielderobservatory.org



The telescope software at the new Gillian Dickinson Astro-imaging Academy in action!

technology to bring it alive! The early evening start time gives younger children the chance to visit the observatory and learn more about science and astronomy.

Despite all these new events we haven't forgotten the ever popular Space Kids events, which will be running throughout August at 4pm or 5pm on Tuesdays and Thursdays - book now to secure your place, they do sell out quite quickly.

Looking even further ahead, why not do something different at New Year and join us at the Observatory for a party under the darkest skies in the UK? Champagne, buffet and live fiddle music included! Ticket sales for this event are now open.

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NIGHT SKY

AUGUST 2018 (times in BST)

Lunar phases

Last quarter	04/08/2018	20:17
New moon	11/08/2018	11:57
First quarter	18/08/2018	09:48
Full moon	26/08/2018	13:56

PLANET SUMMARY

Mercury is in conjunction with the Sun. Venus will be visible in the evening twilight but will be a challenge to locate and must be done only after sunset. Mars is near opposition and visible for most of the hours of darkness. Jupiter and Saturn are evening objects, visible until around 2130 and midnight respectively. Uranus is visible after midnight.

THE STARS AT 10PM (BST)

North – Lyra will be overhead with the two Bears nicely placed along with Cepheus. Auriga will be close to the horizon.
East – Andromeda and Pegasus will be nicely placed. Perseus and Cassiopeia are rising. Cygnus is high up.
South – Aquila, Serpens Cauda and Ophiuchus are nicely placed.
West – Hercules is nicely placed with Bootes.

METEOR SHOWERS

August is well known for the Perseid Meteor Shower which is visible for most of the whole month. In 2018 the Moon will be new on the maximum night - 12th/13th August – so as soon as it gets dark and Perseus has risen at around 2230 get looking. You should see around 50 meteors per hour.

COMETS

Comet 21P/Giacobinni-Zinner has put on quite a show this year and is in the constellation of Cygnus at 9th magnitude. Comet 37P/Forbes is in Pisces and has been at 10th magnitude, but is starting to fade. However, keep an eye on Comet C/2017 S3 (Panstarrs) low down in the NE at the start of August - this has brightened suddenly in recent weeks and is now around 8th magnitude. It may reach naked eye visibility.

The Planets 15/08/2018

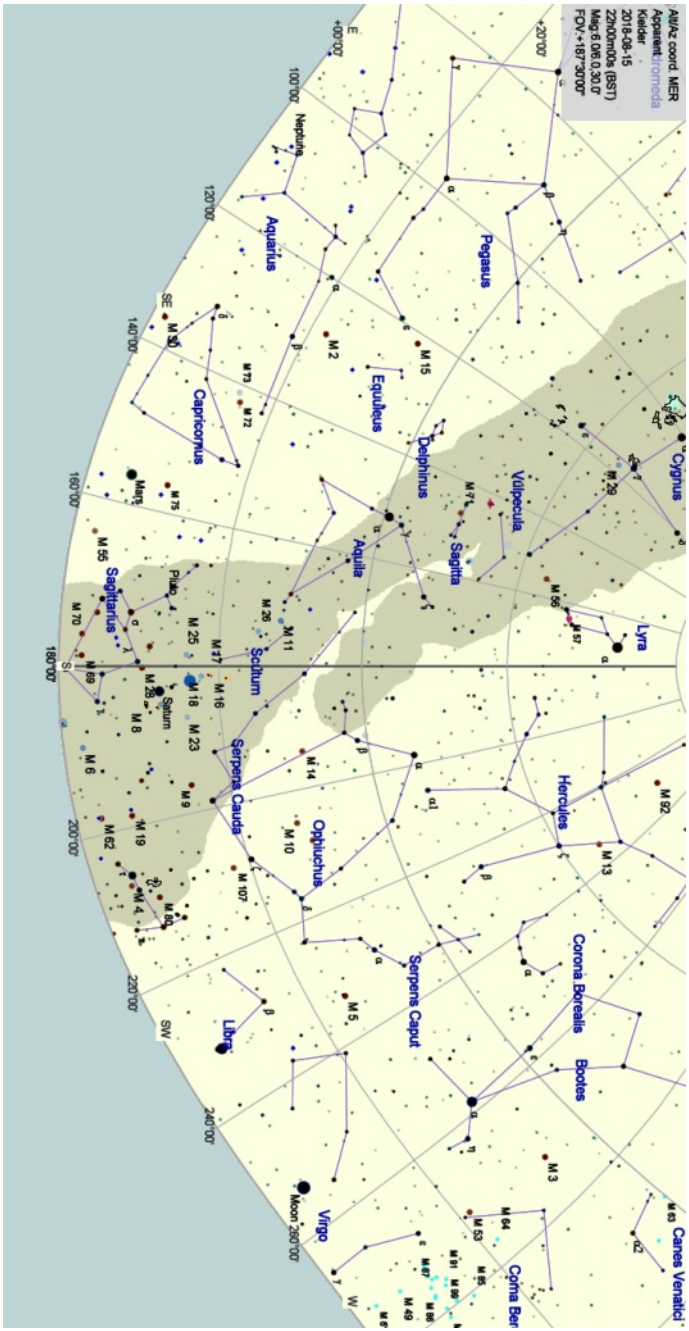
	Sun	Moon	Mercury	Venus	Mars	Jupiter	Saturn	Uranus
Rise	05:44	11:03	05:04	10:20	20:26	13:45	17:54	22:20
Set	20:36	23:42	19:46	21:39	03:00	22:58	01:32	12:43

NIGHT SKY

August 15th night sky looking south at 10pm BST.

The open star cluster Messier 11 (the Wild Duck cluster) in the constellation of Scutum is prominent at this time of year.

Credit: Pan-STARRS



NIGHT SKY

SEPTEMBER 2018 (times in BST)

Lunar phases

Last quarter	03/09/2018	03:37
New moon	09/09/2018	19:03
First quarter	17/09/2018	00:16
Full moon	25/09/2018	03:54

PLANET SUMMARY

Mercury will be in conjunction with the Sun and hence not visible this month. Venus will be also too close to the Sun this month. Mars will be visible for a few hours after sunset. Jupiter will be difficult object after dusk, low in the west. Saturn is visible for a few house in the east once the sky gets dark. Uranus will be a morning object.

THE STARS AT 9PM (BST)

North – Lyra and Cygnus will be overhead with the two Bears nicely placed along with Cepheus. Auriga will be close to the horizon.

East – Andromeda and Pegasus will be nicely placed. Perseus and Cassiopeia are rising. Cygnus is high up.

South – Aquila, Serpens Cauda and Ophiuchus are nicely placed.

West – Hercules is nicely placed with Bootes.

METEOR SHOWERS

There are no bright meteor showers in September.

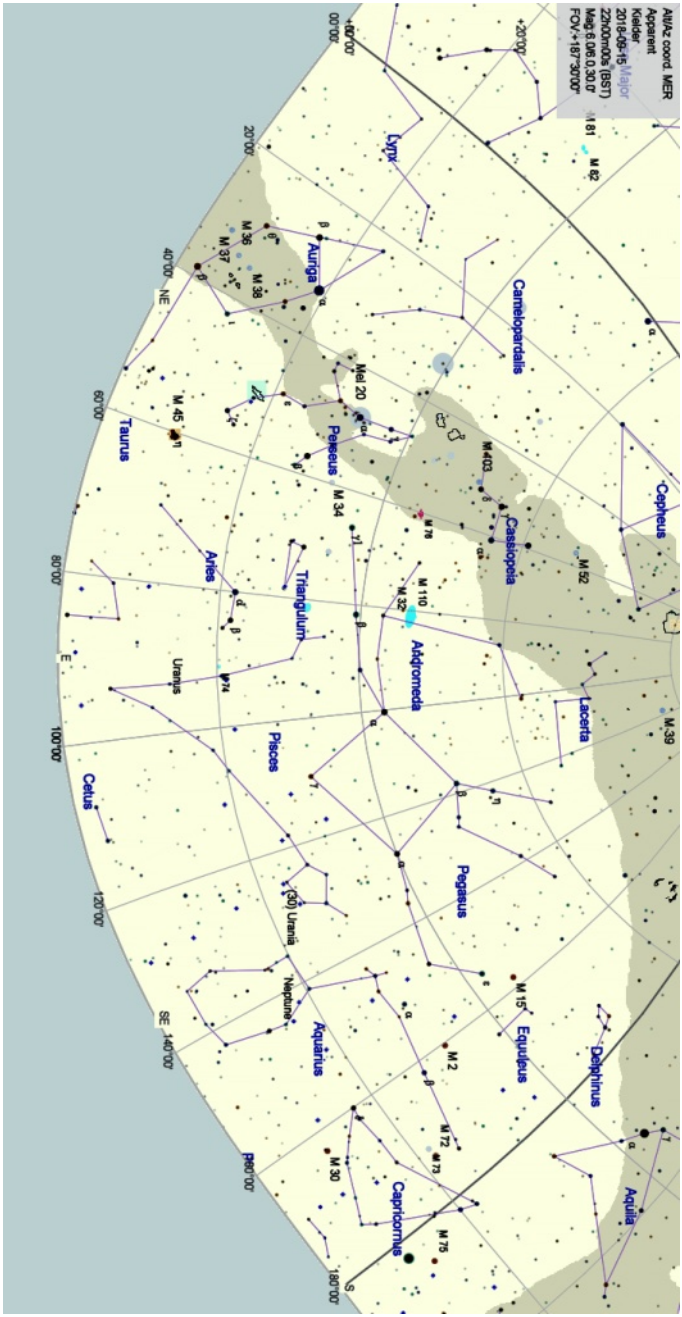
COMETS

There are a number of 12th magnitude Comets that may be visible during September – but only with large binoculars or a telescope. 21P/Giacobinni-Zinner has put on quite a show earlier this year but is now fading. Comet 37P/Forbes is in Pisces and is at 11th magnitude. In October it will be just below the 'circlet'.

The Planets 15/09/2018

	Sun	Moon	Mercury	Venus	Mars	Jupiter	Saturn	Uranus
Rise	06:39	06:05	06:02	11:10	18:21	12:12	15:59	22:13
Set	19:23	19:26	19:27	19:47	01:08	20:58	23:16	10:49

September 15th night sky looking east at 10pm BST.



"Great time, 3 hours spent well! Went for a birthday weekend, unfortunately the weather was cloudy and we didn't get to see any stars! However the staff there were great. Very informative and great at explaining things, our 7-year-old grandson enjoyed it as well. Would really recommend it and I hope you have clear skies!"

Yvonne,
Los Angeles,
California

NIGHT SKY

OCTOBER 2018 (times in BST)

Lunar phases

New moon	09/10/2018	04:48
First quarter	16/10/2018	19:03
Full moon	24/10/2018	17:47
Last quarter	31/10/2018	16:42

PLANET SUMMARY

Mercury and Venus are too close to the Sun to observe this month. Mars is an evening object. Jupiter will be lost in the evening twilight. Saturn will be visible low in the west after sunset. Uranus will be visible for most of the hours of darkness as it is close to opposition.

THE STARS AT 10PM (BST)

North – Cepheus will be overhead with the two Bears nicely placed along with Cepheus. Auriga will be close to the horizon.

East – Andromeda and Pegasus will be nicely placed. Perseus and Cassiopeia are rising. Cygnus is high up. Capricornus will be low down with Mars starting to rise.

South – Aquilla, Serpens Cauda and Ophiuchus are nicely placed.

West – Cygnus, Lyra and Hercules are nicely placed with Bootes low down.

METEOR SHOWERS

The major meteor showers of October are:

a) Around 8th October – the Draconids – a minor show but can still put on a show – visible all night in the North – the Moon so new so a good opportunity to view this shower

b) Around 20th October – the Orionids – near full Moon so a bit of a challenge to see this shower in 2018.

COMETS

There are no bright comets in the sky this month.

Night Sky credits:

Data sourced from Cybersky 5,

https://www.timeanddate.com/moon/phases/

and https://in-the-sky.org/ .

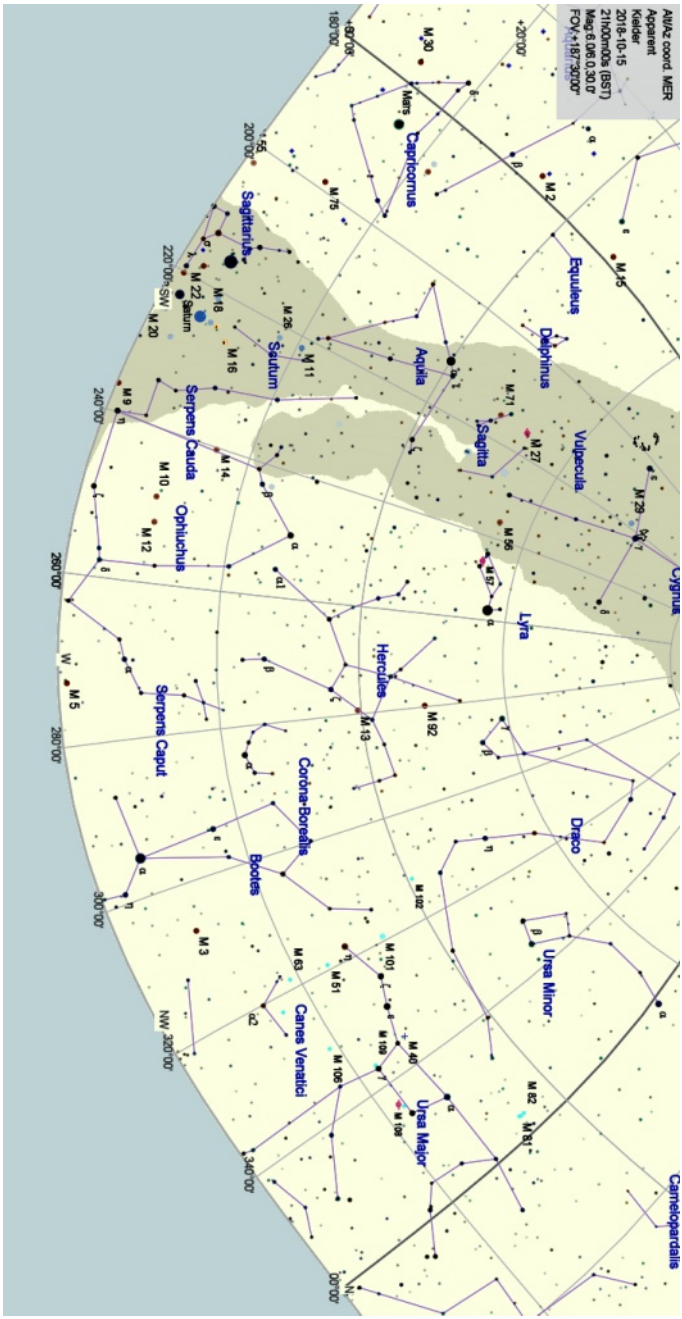
The Planets 15/10/2018

	Sun	Moon	Mercury	Venus	Mars	Jupiter	Saturn	Uranus
Rise	07:32	14:16	09:19	09:56	16:32	10:47	14:06	18:13
Set	18:11	22:16	18:24	17:34	00:31	19:12	21:23	08:37

October 15th night sky looking west at 9pm BST.

October is a good time for planetary nebula (nothing to do with planets, these are shells of gas blown off by ageing stars). Below is the famous Ring Nebula in Lyra, Messier 57. You will struggle to spot the faint galaxy nearby, although imagers should be able to pick it up.

Credit: Pan-STARRS



Small Summer Constellations

During August our attention is inevitably drawn to the stand-out constellations visible in the Summer months, such as Pegasus, Cygnus, Andromeda and others. As deserving of our attention as these constellations are, they have neighbours that are no less interesting but are often overlooked in favour of their showier fellows. Included in this group are the small constellations of Lacerta, Vulpecula, Sagitta, Delphinus and Equuleus. Here are some notes about how to find them and what to observe within their boundaries.

Lacerta

This constellation is located in the gap between Cepheus and Pegasus, to the left of the bright star Deneb in Cygnus. The name means 'Lizard' in Latin and one can imagine this faint constellation scuttling away from the winged horse Pegasus below it, to hide amongst the star fields of the Milky Way nearby. While lacking impressive galaxies and globular clusters within its borders, it does contain two good open clusters, namely NGC 7209 and NGC 7243.

To find NGC 7209 imagine a line going from Alpha Lacertae to 4 Lacertae and extended that for three times its length. The magnitude 7.7 open cluster will appear as a misty patch in binoculars. A telescope reveals the cluster to be made up of a pretty scattering of blue-white stars.

The open cluster NGC 7243 is brighter at magnitude 6.4. It can be found at the apex of an isosceles triangle pointing towards Deneb in Cygnus, whose base is formed by the stars Alpha and Beta Lacertae. This young cluster is formed from a small number of blue stars and is divided into two regions of stars with a sparser region between.

Vulpecula

Vulpecula, or the 'Little Fox' can be found just below the notable double star Albireo in Cygnus. It is a faint constellation but one that contains a number of interesting objects, sitting as it does in a busy part of the Milky Way.

The first object of note is an open cluster to the south of the constellation known as Brocchi's Cluster or more commonly, The Coathanger. This is a distinctive group of stars that form the shape of an upside down coathanger. The shape appears as a misty patch with the naked eye but under dark skies and with keen eyesight, the shape may be resolved. The best way to view the Coathanger is using binoculars, which easily reveal the ten

stars forming the unique shape. To find the cluster, imagine a line from Albireo in Cygnus to Alpha Vulpeculae. Extend this line for one and a half times again and

The Coathanger is a well-known asterism in Vulpecula.

you'll find the Coathanger.

While you are in the region of Alpha Vulpeculae, why not take a look at the star itself. A telescope is needed for this but the star is actually a double. The main star shines at magnitude 4.4 but there is also a fainter red companion a short distance away, 8 Vulpeculae.

Vulpecula is also home to a large and bright planetary nebula, Messier 27, also called the Dumbbell Nebula. This is the expanding shell of gas and dust expelled from a red giant star as it neared the end of its life. It was the first planetary nebula to be discovered, by Charles Messier in 1764. The term planetary nebula is somewhat of a misnomer as the nebulae are not actually associated with planets. Rather, they are named so because their shape when viewed through low power telescopes resembles the round disc of a planet. The Dumbbell Nebula is so named as large telescopes and long exposure photographs reveal it to have a double-lobed shape. The nebula can be found by extending a line from Alpha to 15 Vulpeculae. About halfway along this line there is a group of magnitude 5 to 6 stars

Also in Vulpecula is the planetary nebula Messier 27, more commonly known as the Dumbbell Nebula.

following a downward arc. Follow this line until you come to the nebula. It is easily seen in binoculars and small telescopes. An instrument of at least 4" is required to make out the double-lobe shape easily.

The constellation of Sagitta, the Arrow. The cluster Messier 71 is visible in this wide-field shot.

Sagitta

Just to the south of Vulpecula lies another interesting constellation, Sagitta, 'The Arrow'. This is one of those few constellations that looks somewhat like its name, the main stars forming a distinctive arrow shape. It is the third smallest constellation by area and lies in a rich part of the Milky Way.

The constellation has one notable feature, the open cluster Messier 71. This magnitude 6 cluster can be found midway along an imaginary line between Delta and Gamma Sagittae. It looks like a misty patch through binoculars and small telescopes.

Delphinus

This small constellation can be found between Aquila and Pegasus. The main stars forming the constellation make a distinctive kite shape and one can just about imagine this as a leaping dolphin for which the group is named. There are no notable deep sky objects in this constellation but it does boast a pretty double star, Gamma Delphini. This is the star marking the nose of the dolphin at the top of the kite shape group of stars.

The pair are divisible in small telescopes and consist of a golden fourth magnitude star with a fifth magnitude companion. The constellation also benefits from being located in a sparse area of stars and some distance from the Milky Way. This makes it easy to identify and once recognised you'll always be able to locate it during your Summer observing sessions.

Equuleus

To the south west of Delphinus lies Equuleus, or 'The Little Horse'. This faint constellation is the second smallest by area and is positioned next to its fully-grown companion, Pegasus. The main stars in this constellation form a distorted pentagon shape with the brightest star, Alpha Equulei, at the lower right corner. There are no bright deep sky objects in the constellation but a couple of interesting double stars. The first is Gamma Equulei which can be found towards the top of the constellation, above and slightly to the left of Alpha Equulei and to the right of the brighter Delta Equulei. This star has a slightly fainter white star close by. The pair can be seen in binoculars.

The second double star is Epsilon Equulei. To find it, imagine a line from Beta to Alpha Equulei and extend this for three time the distance. Epsilon Equulei is the bright star north of the end of this line. It shines at fifth magnitude and has a yellow-white seventh magnitude companion. Small telescopes are needed to view the pair.

Judge me by my size do you?

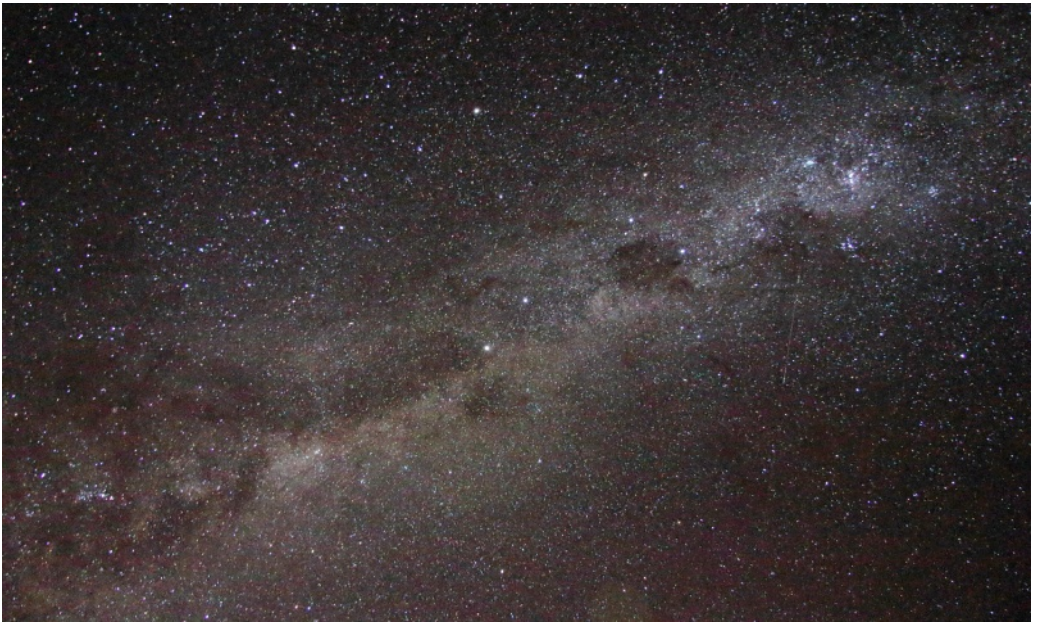
I hope you enjoy seeking out and studying these small Summer constellations. It is worthwhile to tear yourself away from the flashy, more popular constellations from time to time and see what else the Summer skies have to offer. With luck, you'll see something new and develop an appreciation for the fainter constellations often overlooked by even experienced astronomers. By starting out with the five small constellations mentioned in this article you'll be taking your first steps into a larger world.

Steve Brown

(All photos by the author)

Steve Brown is an amateur astronomer from North Yorkshire. He has been taking pictures of the night sky for several years and has been volunteering at Kielder Observatory since 2014. He won the Stars and Nebulae category of the Insight Astronomy Photographer of the Year competition 2016. See his astronomy images on Twitter @sjb_astro

Observing the highlights of the Southern Hemisphere



The Milky Way from Sossusvlei, Namibia

Four years ago – in 2014 – I had my first taste of Tivoli Astro Farm, Namibia http://www.tivoli-astrofarm.de/e_tivoli_astrofarm.htm [as reported in our newsletter #5, Autumn 2014]. I had such a wonderful time there, that I resolved to return for another dose of stunning southern hemisphere night skies. Fast forward to 2016 and I began to plan another trip for 2018, knowing that I had to start some two years ahead to get the time slot at the farm that I wished for. Since my first trip in 2014, a few things had changed. I had got more experience of astro-imaging and I had bought my own CCD camera.

To begin with I had to decide on a set of dates to fall somewhere in the middle of the Namibian Winter (the dry) season and also near new Moon plus/minus a few days - in my case 8th to 14th June 2018. So, in August 2016 off went an email to Reinhold & Kirsten Schreiber who run Tivoli Astro Farm. About 2 weeks later I received a reply and my place was booked subject to the usual payment of a deposit.

Then the real work began:

a) Which objects do I want to image - I like Nebulae - the southern sky has many gems just like the northern sky but with different names - one of my favourites is Theta Centauri – the Running Chicken Nebula IC2944 and also NGC3372 Eta Carina Nebula.

b) How much time should I image each object for - this limits the number of objects over a set number of nights - this is a big consideration for CCD imaging.

c) In what order should I take the images - this is where the AstroPlanner software is very useful.

After about 1 month of deliberation I had an initial list of around 30 targets, which - like the England Football manager - I had to trim down to about 10-15 for the final observing list. In this regard I found it useful to delve into a number of reference materials, namely:

a) A Book – 'The 100 Best Astrophotography Targets' by Ruben Kier... described as 'A Monthly guide for CCD Imaging with Amateur Telescopes'.... which gave me tips on the amount of data I might need to collect on any one object.

b) Software – in the form of Astroplanner [Unfortunately not free for the full version] - a very handy observing guide for planning nightly observing and has telescope control abilities too.

c) Software - CCD Calc [Free] - used to gauge the right size of object to fill the image frame of the telescope I was going to be hiring and....

d) Interstellarum [around £50] - a star catalogue that I found really useful on my first trip to Tivoli in 2014.

e) Software - SkyCharts [Carte du Ciel] - a free planetarium software package, which has ASCOM connectivity.

f) Software - AstroArt 6.0 LAA - astro-image processing, CCD control and many other interesting features.

So, over a period of a few weeks I gathered together the list of objects into a spreadsheet. Fast forward to 2017 and after returning from an eclipse trip to America it was time to book the rest of my trip and some flights. Having been to Namibia before, the first thing to do was to find an 'add-on' in the form of an escorted 3-day camping trip to Sossusvlei – a place with big sand dunes. Next was to book some nights in a hotel to glue the various parts of my trip together – again having had experience of Olive Grove Guesthouse on my 2014 trip that was the next on my to-do list to sort out.
One challenge is then how much would

it cost to take plenty of astro-luggage with me – note that the cost of excess baggage in 2018 is around £100 per kilo, but a lot less if you pay upfront and my CCD camera – a SX Trius 694m plus all the bits, weighed in at 6.5kg.

Having done a number of trips to Africa over the past 20+years, I decided that my best flight option was a three-leg trip via Dubai and Johannesburg. Each leg was no more than 9 hours and more importantly each stop-over was less than 5 hours. It is possible to get to Windhoek via Frankfurt using the national carrier Air Namibia but you cannot connect from Manchester, only from London.

The good news is that AirNamibia are used to astronomers taking lots of astro-luggage on their planes – you can also find 'long metal cases' with people

The Carina Nebula, NGC3372, a star-forming region in our Milky Way

wearing fatigues going through check-in too – in other words Big Game hunters.
Fast forward to March 2018 and the final demand from Tivoli came into my inbox. The way the astronomy part of the farm is run is that you pay a deposit of 20% upfront - based on the current rates for room, board and equipment hire – and then 3 months before your trip you pay the balance including any price hikes – so it's important to factor this in when you book.
By this time I had started to look at the equipment I was planning to take with me. I had already done a number of 'trial packs' to see how I could carry all of my gear. When you factor in not just the camera[s], a laptop, along with all the attendant cables and adaptors you suddenly realise that you might need a Sherpa, so it pays to plan this well ahead and find ways of taking lighter kit – such as that rather expensive carbon fibre tripod to save a kg here or a few 100-grams there. This is also when you decide to leave the tatty old star catalogues at home and instead take the electronic version. One I can recommend is the Deep Sky Observers Handbook – in pdf format. After all that then there are a few other important things to remember, e.g. the adaptor plug to convert your UK 3-pin to South Africa 3-pin, or there'll be tears before bedtime if you forget it, and a trailing 3-way socket – for your laptop, camera[s] etc.as the Observatory has only one socket.
From my first trip I discovered that the mount I was using did not have USB sockets but relied on 9-pin D serial connector – so I found an adaptor to sort that out – note that I found out the hard way in 2014 that a USB/serial cable doesn't work with a 15-year old mount!
Did I say mount? Well, the equipment I had hired consisted of the following - AstroPhysics GP1200 GEM with HB3 – circa 2005 edition/Celestron C11 - for

Space Kids 31st May

"Kids thought it was "epic" - they absolutely loved it. Really interesting for me (dad) as well - I learnt plenty and we all found the event fascinating. Would thoroughly recommend and will definitely come to other events in the future if we are in the area."

Jon, Leeds

visual and DSLR images using a f6.3FFFR/Takahashi FSQ 106 used with the CCD Camera. Cost to buy about £30,000+ – mine for 6 nights for the princely sum of about £600 in total.

On top of this you do have to pay about £85pppn for board and lodgings at the Farm and around £300 for a round trip transfer from the airport [or your hotel] – the Farm is about 180km from the airport. Overall, my farm-stay at Tivoli added up to about £1400.

OK – pick your jaw up from the floor – yes this place isn't cheap – prices at the Farm had increased by about 100% since my 2014 trip because of a) currency changes and b) Namibia has 10% inflation.

The evening starts with a three course meal at 6:30pm, then at around 8pm start up observatory and get observing – under completely clear skies. Midnight snack and hot drinks included! At ca. 4am shutdown observatory and go to bed.

A tip I found useful is that most of your fellow astronomers at Tivoli – it can only cater for about 12 people at a time - speak German, so a bit of CSE German I learnt 27 years ago did help and both Reinhold and Kirsten speak good English.

So, after a 6 night stay at Tivoli I had acquired around 15GB of data which was safely backed up and then I headed off from the farm and overnighted at Olive Grove Guesthouse. This pace is in Klein Windhoek – the original 18th century capital of South West Africa as it was then known. OGG is quite stylish in an unusual way. It is a mix of Arabic, German and African influences all dressed up in reinforced concrete – tip: take some sturdy sandals as even the bed surround has rebar in it!. Even the shower curtain is sculptured concrete.

The following day I embarked on a Wild Dog Safari to Sossusvlei sand dunes. This was – or at least can be – participation camping – you get out of it what you put in. I had planed ahead and my – fairly delicate – CCD Camera was safely stored at WDS HQ, while I was on tour. After 2 nights camping under the stars – during which time I did a bit of astrophotography 101 for a few of my fellow travellers – we returned to Windhoek via Deadvlei and Sesirem Canyon.

After reading this you may think Namibia is not for me. But having been there now 3 times I would like to say a few words of recommendation. Firstly – the people are friendly and the food is great. The roads are quiet when you get out of the big city and there are endless number of places to explore if you are prepared to travel.

IC2944, the Running Chicken Nebula (!), taken through a hydrogen-alpha filter.

Yes its a big country and distances can be huge so don't expect to take in everything Namibia has to offer in one trip. So take a few trips to get to know this place and I promise you will want to go back again.
On that very subject – am I going back? - very definitely yes and if you want to come with me on my next trip [around 2022] then please get in touch.

More details of my trip can be found on www.robs-roamings.info and if you just want to take a look at my picture album – for both 2014 and 2018 trips - then this is the link....
https://www.flickr.com/photos/56553919@N04/sets/72157645078039525/

Robert Williams

GALLERY

We would love to display your images here, whether they are taken up at Kielder or not - please send them to

newsletter@kielderobservatory.org

along with a brief description of how and when they were taken.

Summer may not be a time for dark skies, but it is always a good time for noctilucent clouds! This display was seen just before midsummer's day.

Physics in the Park – Exoplanets - May 18

"Brilliant event
Great talk by a really engaging speaker, plenty of practical time to look through various telescopes, nice drinks, really friendly staff. Highly recommend."

David, Walsall

GALLERY

The planet Jupiter is prominent in the Southern sky at the moment. It has four major moons which are easily seen even in binoculars or a small telescope. This shot was taken at the observatory in late June.

The International Space Station (ISS) frames the rising moon as it passes over the observatory in May.

GALLERY

Seeing double? We have two Dans at the observatory ...

Noctilucent clouds over Kielder Water. I wonder if this one will appear in next year's calendar!?

I know, yet another Milky Way shot. But they are beautiful, and you have to be amazed at what modern digital cameras can do! This one was taken in May and you can see the Andromeda galaxy just to the side of the left hand turret.

Earthshine - although we normally see the moon as a crescent illuminated by the sun, long exposures show that the part you think is dark is not - reflected light from the Earth causes it to glow faintly.

We attended the Jupiter in Opposition event, unfortunately this turned out to be the only wet evening for several weeks, with thick cloud, mist and heavy drizzle for the whole evening. Even so, we weren't disappointed.

The staff and volunteers are particularly knowledgeable - but most important, can put across their immensely complex topic in a way that everyone can not only understand, but can contribute to as well.

We had a wonderful evening, despite the weather and through the effort and dedication of the staff and volunteers, it compared very favourably to last year's visit where we were able to use the telescopes. Our advice - even if the weather is bad - the visit is still excellent - just ensure you dress for the weather. Bear in mind that it gets very cold even on a summer evening as you are high up. Don't miss it.

Richard - Kent