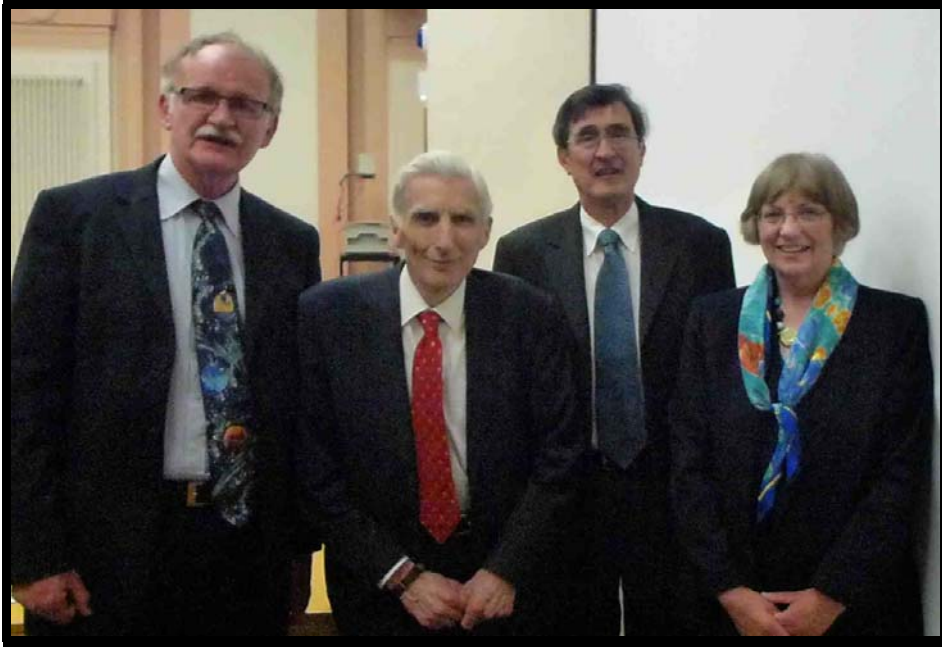




NEWSLETTER

June - August 2012 Issue 159



CAS members with the Astronomer Royal at "A Right Royal Do". From left to right Roger Butler, Lord Martin Rees, Dave Powell and Theresa Cooper.

Photo Prof. Mike Disney

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Editorial

Ian Davies

The way that most of you will get your Newsletters in future is changing. In order to save on increasing costs, we have decided that the primary delivery method will be electronic.

You will get an email from us when the Newsletter is ready, this email will include three links for you to download three versions of the Newsletter. The three are a low-resolution A5 version for a quicker download, a high-resolution A5 version, this is more detailed especially when looking at the sky charts, but is a larger file to download. And lastly a high-resolution print version, that allows you to print the book version. All three versions will be in Adobe Acrobat (.pdf) format. If you don't already have an Acrobat reader, there are free readers available for most computers from Adobe's web site.

If you are not able to access the electronic copy of the Newsletter, don't panic. You will be able to opt out, by ticking the box on your next year's membership form and receive a paper copy as normal.

This Newsletter (Issue 159) will be delivered to you on paper as well as electronically, so that you can have a taste of the new system.

On the subject of Newsletters, our archive is now available in the Members' Area of the website. The archive contains all the issues we have going all the way back to the first one in 1975. We have two missing from the archive, numbers 62 and 65, and issues 24, 25, 26, 28 and 40 each have 1 or 2 pages missing. If you have copies of any of these we would like to borrow them to complete the project.

Wishing you dark skies - Ian.

Publication Dates

The CAS newsletter is published at the first society meeting of September, December, March and June. The deadline for submissions is 4 weeks before the publication date (deadline for Issue 160 is 8th August).

Visit CAS on the web @

<http://www.cardiff-astronomical-society.co.uk>

General enquiries email info@cardiff-astronomical-society.co.uk

Remember as a CAS member you can use the Members' Area of the web site. Your password is your surname followed by your membership number.



CAS is now on twitter, to follow us, follow **CardiffAS**

Annual General Meeting 2012 – an overview.

Roger Butler

Our annual general meeting is never going to feature as the highlight of our Thursday night calendar. No astronomy is discussed and there is no presentation by an eminent astronomer. This accounts for the attendance of only 26 members this year. Nevertheless the AGM is vital to the future of the society, as each member of the committee with special responsibilities gives account of the activity in their area and every member of the society has the right to question and comment. This way we examine every part of the society and determine whether it is fit and appropriate for another year. A sort of MOT.

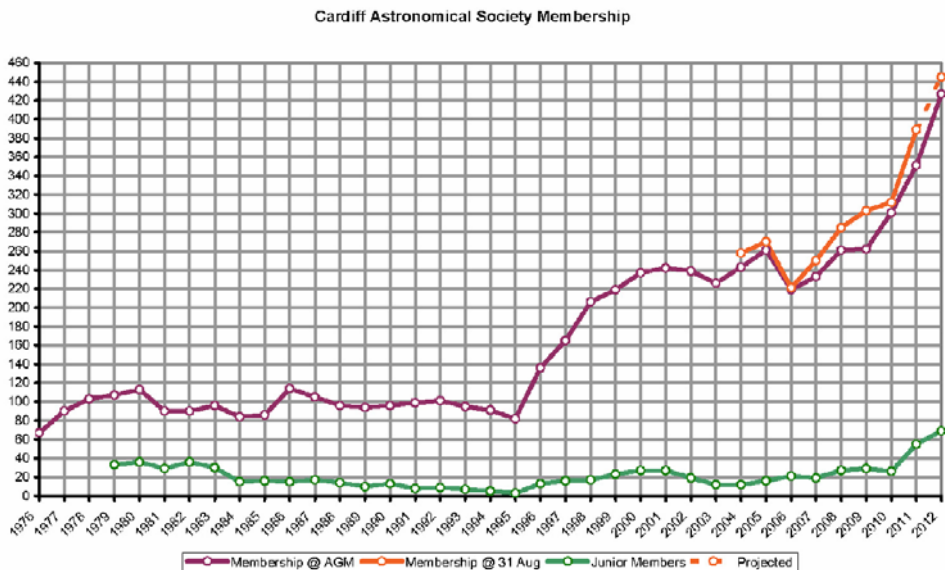
The AGM also provides us with a specific point in time when we can look back to the last AGM and measure how far we have come in the last 12 months. From this we can determine whether things are on the up or whether changes in what we do are called for.

For the last few years, things have been advancing significantly on all fronts with increases in all our activities as well as membership numbers. Our bank balance remains healthy despite considerable expenditure of late and without having to increase subscriptions. The membership is at all time high and leads us to conclude that CAS is now by far the largest local amateur astronomical society in the UK. With this comes a higher profile in the media and a greater demand for our expertise and involvement in outreach in new locations. We have to be very careful not to over stretch ourselves beyond the capabilities and enthusiasm of our volunteers.

Not only can we look back on the previous AGM, but all the AGM's right back to the beginning of the society in 1975. Ian Davies has archived all the minutes of every committee meeting and every AGM on the CAS website, in the 'members' area', under 'committee meeting minutes'. This makes for fascinating reading and charts the steady progress of the society from humble origins. If nothing else, I would recommend you look at the full minutes of

the latest AGM (2012) to see for yourselves the detailed reports regarding the society today.

The most significant feature has to be the dramatic increase in membership numbers of recent years. Ian Davies created the following graph showing the subscription numbers over the whole history of CAS:



You will note that the society averaged around 100 members in its first 20 years. Then in 1996 it began to publicise its activities much more widely which generated considerably more interest. As a consequence membership increased to just above 200 in the next 7 years. In 2009 we had the International Year of Astronomy which encouraged all societies to reach out into the community and take their astronomy to public events.

Subsequently this initiative has been extended and reinforced by the BBC's StarGazing Live, television documentaries and media coverage. The result has been a year-on-year increase in CAS membership, which is currently heading for 450.

It remains to be seen whether this level of interest can be sustained or indeed expanded: the current curve would see 1000

members by 2016 ! But the conclusion to be drawn is clearly that so many of the general public have an innate interest in the universe and their place in it and it remains the aim of CAS to help them understand and reengage with the sky. This is an ongoing mission.

One other feature, as shown by the lower curve on the graph, is that we now have around 60 junior members and the committee are investigating the feasibility of creating extra activities specifically for the younger age group.

Finally I must acknowledge the continued support and encouragement of Cardiff University School of Physics and Astronomy and record my thanks to the each of the committee members, as without their unstinting efforts the society would not now be at the forefront of amateur astronomy in the UK.

A Right Royal Do !

Roger Butler

The Secretary, Public Events Organiser and Chairman of CAS were invited to a lecture given by the Astronomer Royal, Lord Martin Rees, followed by a dinner at Cardiff University.

The occasion was the 52nd William Menelaus Memorial Lecture, hosted by the South Wales Institute of Engineers and Education Trust.

Came the day, at the end of March, we three – Dave Powell, Theresa Cooper and I - assembled at the steps outside the Bute building, suitably scrubbed, suited and booted. We hardly recognised each other but fortunately Dave had forgone the flares and I had mislaid my spats. Someone rushed up to shake our hands and bid us a hearty welcome. We had no idea who he was and suspect he didn't know who we were either but it was an auspicious start.

Inside we were ushered to the front row of the lecture theatre and to three seats labelled 'Reserved'. (This was to have unforeseen consequences as we each sustained stiff necks from looking upwards at the powerpoint presentation.)

Soon the lecture theatre had filled and most of the company were well known in Cardiff astronomical circles (orbits ?). Our President, Mike Disney, and our Vice President, Mike Edmunds were both present, along with much of the University Physics and Astronomy Department.

Now in his 70th year, Martin Rees, Baron Rees of Ludlow, has had an illustrious career in cosmology, witnessing in his lifetime some of the most profound changes and advances in our knowledge of the universe. Until recently he was President of the Royal Society, following on the tradition of Christopher Wren, Samuel Pepys and Isaac Newton. And, of course, the current Astronomer Royal; the 15th to hold the position, beginning with Flamsteed and Halley.

His lecture - 'From Here to Infinity' – was a summary of our current knowledge of the cosmos and (coincidentally ?) the title of his latest book. He is a master communicator and conveyed an enormous array of theories and discoveries into a coherent picture, comprehensible to all. Following his presentation, there was a lively question and answer session. We also learned that many of those who claim to have had encounters with UFOs and alien life feel compelled to write and tell the Astronomer Royal all about their experiences. His response is to ask them why they think that aliens would travel right across the galaxy – a task we could not currently contemplate – only to communicate with the uneducated, impoverished and powerless, before flying off back to their galactic homes. He also requested that those experiencing alien encounters should communicate with each other - and not with him!

Following the lecture, the vote of thanks was given by Mike Disney. In his inimitable style, he paid tribute to Lord Rees' varied career, with its many prestigious appointments. He already had a wager that Martin Rees would become the next Archbishop of Canterbury, as this appointment is currently vacant. In addition, our President was mindful to mention Cardiff Astronomical Society, paid tribute to the work that we do and declared us now the largest local amateur astronomical society in the UK.

Lord Rees also congratulated CAS on its work and status and

graciously allowed us to be photographed with him to mark the occasion. And it was Mike Disney's finger on the camera shutter. Who better ? After all, he was a lead scientist on the Hubble project.

The drinks reception in Aberdare House allowed us to mingle with many friends from the Physics and Astronomy Department before retiring to the dining room for the dinner. At this point I was segregated from my two colleagues and taken up to the top table to dine just a couple of places away from Lord Rees. Here I found myself among strangers but interesting and informed people they turned out to be. My immediate neighbour was President of the Welsh Livery Guild and on the board of the Prince of Wales' Trust. In a former life, both of these bodies have awarded funding to my students, giving them vital support at the very beginning of their careers. It also turned out that, decades ago, he had been the finance officer in the West Midlands who paid my salary when I was a young and eager lecturer.

Lord Rees was presented with a bottle of Penderyn Welsh whisky and four cut-glass whisky glasses (rather assuming that he was going to share the whisky) before departing to catch his train.

Dave and Theresa also seemed to have enjoyed themselves on the back row and with the company on their table.

All too soon we were tumbling out in to the cold night air and there, as if to underline the theme of the evening, we were greeted by the Moon, Jupiter and Venus, dazzling in all their glory and easily holding their own against the bright lights of Cardiff city centre.

Behind the Scenes

David Powell

Saturday February 25th our first visit to Cwmcarn Forest drive. What a location. They had a full house, plus a reserve list of people wanting to attend. We were met by the wardens who had laid on tea/coffee for us. The sky was crystal clear 360 degrees. We had great views of the Moon, Jupiter, Mars, and Venus along

with lots of deep sky objects. If you have never been to this place it's highly recommended.

I have been asked if speakers could offer a "brief resume" of their talk so members may wish to decide if they will attend. Most speakers will not do this, as they like to maintain a little "intrigue". Any member that has a problem with this can always contact me in advance, as I know the speakers so well. I will offer my opinion, but it will be just that, an opinion.

We are still waiting for the National Trust to take over the running of Dyffryn Gardens. This should not be a problem for us, in fact we may well have a higher profile. One thing we intend to get up and running ASAP is special meetings for our juniors. These will be held in the Cory Centre Dyffryn on a Saturday morning.

This edition of the newsletter has been printed in the normal way, distributed at the meeting or arriving by first class post to your door. It also contains instructions as to how you can now download a copy. The more members take up this option the better as it saves us money, but I will always have printed copies available to anyone who wishes to continue to receive it this way.

We have now purchased our own solar telescope, a Coronado SolarMax II 60 with rich view tuning BF15 plus a study tripod. Other purchases already done and dusted or on order include a folding gazebo and table, new display boards, a solar filter for the 12" Dobsonian, a tube shroud, a Minitron adaptor, Baader 1.25 T-2 eyepiece holder, a heater and dew shield for the 12" Observatory scope, and dust cover.

The Observatory has had a coat of paint, the decking a coat of non-slip paint. We have installed rain guttering and waterbutt (it's full to overflowing), and by the time you read this gravel will have been laid down around the whole observatory.

Next years programme of speakers is complete and available on our website.

We have reopened the Faulkes Telescope account. Who wants to take advantage of this? Interested, come and talk to me.

I have been asked to vary the raffle prizes a little, as bottles of

wine don't suit everyone. Chocolate was tried and I was told stop, go back to wine. So how about a bottle of wine, and three lottery tickets? Talk to me.

Now I know this column is done far better by Rosa, but she is spending the summer months working in Italy, but I feel sure on her return it will be filled with all the adventures she got up to, well at least the ones that can be repeated.

A New Venue

Ian Davies

The 25th of February saw us take the CAS circus to a new venue for us, Cwmcairn Forest Drive and Visitor Centre. As we rolled up to the site, unusually for one of these events, the skies were crystal clear. So it was plan A for the evening. We also had some new volunteers joining us Kayleigh Churchill, Chris Hughes and Gordon Ford, they are most welcome and thoroughly enjoyed themselves

Plan A saw us doing our introductions, a brief introductory talk in the Visitor Centre and then all of us forming a convoy and heading up to car park number 2 on the Forest Drive where we were set up for observing. Also the Visitor Centre staff had laid on hot soup and a bread roll.



The View from Car Park number 2

Observing saw us see Venus and the crescent moon setting over the western hills. Jupiter was fairly high over head and Mars was rising in the East. We also showed the delights of the winter skies, with such highlights as the great Orion Nebula (M42), the Pleiades (M45) and several other deep sky objects.

By all accounts, the public who attended were pleased and had nothing but praise for the event. The staff at Cwmcairn certainly were and we have been invited back to do further events. We have bookings on the 23rd June to do Safe Solar Observing at the Visitor Centre from 10am to 4pm and 17th November for another evening event for 7pm to 9pm.

Space Flight Roundup

John Richards

ISS

The Soyuz TMA-22 capsule, docked to the ISS, and launched from the Baikonur cosmodrome back in November 2011 landed safely in Kazakstan on 27th April. The capsule carrying American Dan Burbank and Russians Anton Shkaplerov and Anatoli Ivanishin undocked at 8:15am and landed in typically Russian fashion (ie quickly and efficiently) just over 3 ½ hours later.

This ended expedition 30 and leaves only 3 people aboard the ISS. One is Dutch astronaut André Kuipers. The next crew to be launched, is the Expedition 31 crew, and is expected to launch from Baikonur on May 15th. They will dock to the ISS normally 2-3 days later on what is scheduled to be a 6 month mission.

Also, the previous Russian supply ship, Progress M-14M undocked from the ISS on 19th April. It carried rubbish from the ISS and burnt up in the upper atmosphere, over the Pacific Ocean. This made way for the new Progress supply craft that was launched on the 20th April. It carried almost 3 tonnes of supplies, including dry cargo, food, clothing, water (Russian and American 'versions' bizarrely), oxygen and air.

SpaceX

The much postponed 1st launch by a commercial provider to the ISS has been delayed again. A test firing of the rocket was conducted on 30th April, and while no issues were found, NASA and SpaceX are being VERY careful before launching this craft anywhere near the



\$100 billion orbiting space station. The launch, from Cape Canaveral is now scheduled to take place towards the end of May.

Shuttles on the move

The space shuttles, Discovery and Enterprise 'met' briefly in late April at a transfer ceremony held at the Smithsonian's Steven F. Udvar-Hazy Centre. The shuttles are currently undergoing decommissioning at the Orbiter Processing Facilities in Florida. After this decommissioning, the orbiters will be sent to their new permanent homes across the US. The stated aim of this exercise is to commemorate past achievements in space and to educate and inspire future generations of explorers. After a combined journey of more than 150 million miles, the Space Shuttle Discovery was taken, on top of a specially modified Boeing 747, with much pomp and ceremony to its new home at the National Air and Space Museum



Opportunity rover

After a rest of almost 5 months, due to the Martian winter and lack of sunlight, the Opportunity rover is on the move again. After surviving its fifth Martian winter the craft was taken for a 12 feet "spin" northwest and downhill from its current location at Greeley Haven.

During its 5 month, "winter break" Opportunity used the spectrometers and microscopic imager on its robotic arm to inspect more than a dozen targets within reach on the outcrop. These measurements will help provide precise information about the planet's rotation. In total the opportunity rover has travelled over a mile and has FAR exceeded its initial mission length, which was designed to be around 3 months.

An Italian Adventure

Rosa Adams

Whilst working here in on Lake Garda Italy I discovered there was an astronomical observatory in the Alto Garda, a wild area of mountains, rivers, forest, and tiny narrow rock villages.

A day off work and it was to this observatory that I planned a visit - so first things first lets look it up on Google. Seemed a bit of a circuitous route to me and I thought I could see a more direct way but hey just for once lets just follow the rules and so before long I was travelling west on the motorway, turning north into the mountains on a country road mostly cut through sheer rock, amid stunning scenery of snow capped mountains, and even a dam spanning the river that once formed the Austro/Italian border and now is in Italian territory.

After what seemed like hours I saw a sign that said Monte Spino and as there didn't seem to be anything else that looked as if it might lead to an observatory, up I went. The road looked just like any road - to begin with, but very quickly narrowed to a track some 7 feet wide with the mountain on one side and a sheer drop on the other without barriers, I have to admit I was getting a tad nervous at this stage and as there was nowhere to turn I around I was forced to go on and on and up and up, reversing down a mountain with nothing between me and a 500 feet drop and getting steeper was not an option.

Eventually the road widened a little at in one place, just enough to accommodate a bench, albeit was perched on the edge of



the drop, you would have had to have nerves of steel to sit there I can tell you. With nowhere else looking remotely suitable and truth to tell thoroughly frightened I executed a 30 point turn and headed back down the mountain, all thoughts of observatory visiting having fled.

Oh well back to the lake for me, until 100 metres down the road around a hairpin bend I saw the sign for Cima Rest [a mountain refuge] and the observatory – so I try again and this time the road is reasonable, well it will admit 2 passing cars for some of the time. It seems to be an infallible rule though that you will meet a very large German car on every bend when backing up is nigh on impossible. There is the occasional road sign announcing poco pericoloso [a little dangerous] downright dangerous I say.

Up and up, here even the trees are not yet in leaf like their valley counterparts but it is beautiful blue sky, snow capped peaks in the distance, and then suddenly one has arrived. The area has become a bit of a tourist venue,



with ancient thatched barns. There is a decent bar but no sign of an observatory, a few sturdy walkers brandishing walking poles and backpacks but no observatory. Then I discover it is a further 300 metres up the hill behind a belt of pine trees and so of I set up the track and finally there it is. It is closed. It opens to the public in May. The silence was awesome though and alone made the journey worthwhile and yes I will go again when it opens. There is absolutely no light pollution and I am expecting/hoping for some awesome skies as well.

Rary, The Cat's Evil.

David Powell

Ray from number 4 knocked on the door.

"Come in Ray"

As he put his head round the door, he asked "Where is he?"

"Who, Rary, oh no idea he went off yesterday in a huff, just because Mrs Powell shouted at him."

"Yes we did hear." said Ray, "the kids rabbit still refuses to leave its hutch."

"She can be so melodramatic." I say. "It was all over the fact she wanted to get in the bathroom and Rary wanted his tummy tickled. When she screamed I went to the bottom of the stairs to see a grown woman who I may add is well known as the first female cage fighter will not step over the cat."

"Tickle his tummy." I say.

"I will do no such thing. He may have things living on him, and he looks mangy, get up here and shift him now."

"Come on Rary, Daddy will tickle your tummy downstairs; let's leave the bad tempered lady on her own."

"Well", said Ray, "you must admit that cat's evil."

"Evil? That's a bit strong surely."

"Dave what about the incident in the churchyard."

"Ray as a grown man you do get taken in very easy."

"Are you denying as he walked past that gravestone it fell over."

"For heavens sake Ray the stone's inscription said the guy died in 1798! The guarantee must be up and the firm will by now have ceased business, plus the Rev Thomas was walking with the cat, maybe its him. Blimey it comes to something when people think Rary is capable of moving large stones."

Just then the doorbell goes again. "It's like Piccadilly Circus in hear." I say. "Come in Mr Jackson, what can I do for you?"

"Is he about?"

"Who", I ask.

"That cat."

"What's he done now?"

"Nothing yet but I have a special delivery booked for today and I don't want any trouble."

"You guys know I have a nice big aviary, well my seven male canaries are in for a treat this weekend, a chap from the other side of our estate is lending me two valuable lady canaries, get the picture."

"Oh I see."

"Hang on", said Ray, "what picture?"

There followed a five minute talk on the birds and bees before the penny dropped.

"Dave the birds need piece and quiet, so I have come to ask you if you can please keep Rary away?"

"What am I supposed to do, put him in solitary confinement?"

"Dave I don't care what you do, but that darn cat is evil."

"Not you as well."

"Yes, yes, I have heard all about the graveyard incident, and as I told Ray you can't hold the cat responsible every time an ancient stone falls over."

That night was clear and I went out to do some observing. Fat chance, Mr Jackson's aviary is lit up like a nightclub. So I went over to have a word with him. "Look what is the point; this thing can be seen for miles around, goodness knows what they make of it at Rhoose airport."



“Well if it keeps that cat away...”

“And what”, I ask, “is all that stacked up to the door?”

“Brilliant, don’t you think? This should keep the little devil out.”

“Let me get this straight, you have moved half your rockery up against the door?”

“Yep just let him get past this.”

“Mr Jackson, how do you think the birds are going to react to all these lights and stones, surely, if I remember right courtship requires piece and quiet, soft lighting, music, chocolates, and above all else privacy.”

I shook my head and went back to my garden. Rary had decided a good place to settle down would be my bag containing all my eyepieces, so the night was not wasted, as I spent the next couple of hours with the aid of the wife’s best tweezers (memo to myself don’t let her read this, I don’t want to spend another week in the shed) removing little ginger hairs from the lens.

“Now look Rary I am off to bed. If you go out make sure you close the cat flap and just for me stay away from the aviary.”

The following morning all hell broke loose, I stick my head under the duvet, praying Mrs Powell has not noticed the state of her tweezers, but I am reassured when she rips the duvet off me and she is not carrying any weapons.

“It’s the Jacksons.” she says.

I look out the bedroom window to see Mr Jackson wearing a pair of bright canary yellow pyjamas kneeling on the ground sobbing. I know just how he feels the postman delivered our winter fuel bill the same day.

“Get dressed and get over there now!”, I am told, “It’s bound to be that cat.”

Just then Rary pops up out of the duvet bleary eyed,

“Well you have done it now?” I say, “This will cost me, I asked you to leave things alone, but oh no you just had to have a go, what is it with you, do you have to go on proving to yourself how clever

you are because all it does is show that lot they were right and you are evil. If I were you I would be long gone by the time I get back, just take a long vacation."

I arrive at the Jacksons and went straight to the aviary, the stones have moved allowing the door to be opened about six inches. Mr Jackson is still on his knees, running soil through his hands, while looking skyward. I could only catch a little of what he said, but the gist was some curse he was bestowing on Rary. I was trying to think of something reassuring to say, but all that came out of my mouth was. "At least the soil has been put back on the rockery".

"Dave", he cried while grabbing me by the shoulders, "I can't look, I can't go in, what's the damage?"

I took a deep breath, you know the sort, like when the credit card statement arrives on the doormat. I entered expecting to witness carnage. "How many birds did you have?" I ask.

A whimpering Mr Jackson replied. "Seven of my own, and two of my mates"

"So let me get this right, there should be nine birds healthy birds in here?"

"Yes" sobbed Mr Jackson. "Ok well brace yourself for a shock, there are nine healthy birds now." "What?" He flew passed me, fell to his knees again, counting over and over again his nine birds. "I can't believe it Dave, who the hell moved all the stones and got in the aviary?"

"Well you can't blame Rary and I hope you will do the decent thing and apologise when you next see him."

When I got back home I asked Rary, "What happened? You are not telling me you moved the stones just to prove you could but left the birds alone, are you?" Rary just winked at me brushed against my legs and ordered room service for the rest of the day. No, I can't believe it myself, but no one else has owned up to moving the stones, so whoever did it can't really be evil, can they?.....

Up-coming CAS Public Events

Date	Time	Event	Venue
23 rd June	10:00am to 4:00pm	SAFE solar viewing	Cwmcarn Forest Drive and Visitor Centre
28 th July	10:00am to 4:00pm	SAFE solar viewing	Brecon Beacons National Park Visitor Centre
18 th & 19 th August	10:00am to 4:00pm	SAFE solar viewing at the Family Fun Weekend	Dyffryn Gardens
15 th & 16 th Sept.	10:00am to 4:00pm	SAFE solar viewing at the European Heritage Weekend	Dyffryn Gardens
22 nd Sept.	Evening	Stargazing at St. Fagans	St. Fagans: National History Museum

CAS Lectures June to September

Date	Title	Lecturer
7 th Jun	Was Einstein 100% right?	Prof. Malcolm MacCallum, Bristol University.
21 st Jun	The Griffon Educational Observatory, Andalucia.	Andy Burns, Wilshire.
5 th Jul	Three Short Talks.	Members of Cardiff Astronomical Society.
6 th September	Lunar Reconnaissance Orbiter - The Moon Close Up.	Dr Peter Cadogan, Cotswold Astronomical Society.
20 th September	Johannes Hevelius 1611-1687, The First Telescopic Astronomer.	Dr. Allan Chapman, Oxford.

Almanac Compiled by Ian Davies

Sun Rise/Set & Twilight

Date	Astronomical Twilight Begins	Sun Rise	Sun Set	Astronomical Twilight Ends
01 st June	--:--	04:01	20:19	--:--
08 th June	--:--	03:56	20:26	--:--
15 th June	--:--	03:54	20:31	--:--
22 nd June	--:--	03:55	20:33	--:--
29 th June	--:--	03:58	20:33	--:--
01 st July	--:--	03:59	20:33	--:--
08 th July	--:--	04:05	20:29	--:--
15 th July	--:--	04:13	20:23	--:--
22 nd July	00:47	04:22	20:15	23:50
29 th July	01:32	04:32	20:06	23:05
01 st August	01:45	04:36	20:01	22:52
08 th August	02:12	04:47	19:49	22:24
15 th August	02:34	04:58	19:35	21:59
22 nd August	02:55	05:09	19:21	21:36
29 th August	03:13	05:20	19:06	21:14

Meteor Showers

Date	Meteor Shower	RA	DEC	ZHR
10 th June	Ophiuchids	17h56m	-23°	5
20 th June	Ophiuchids	17h20m	-20°	5
15 th July	Capricornids	20h44m	-15°	5
20 th July	alpha-Cygnids	21h00m	+48°	5
26 th July	Capricornids	21h00m	-15°	5
29 th July	delta-Aquarids	22h36m	-17°	20
31 th July	Piscis Australids	22h40m	-30°	5
2 nd August	alpha-Capricornids	20h36m	-10°	5
6 th August	iota-Aquarids	22h10m	-15°	8
12 th August	Perseids	03h04m	+58°	75
21 st August	alpha-Cygnids	21h00m	+48°	5

Observers Club Meetings

Date	Day	Time	Venue
29 th June	Fri	20:00 - 22:00 BST	Black Cock Inn
27 th July	Fri	20:00 - 22:00 BST	Black Cock Inn
31 st May	Fri	20:00 - 22:00 BST	Black Cock Inn

Observing Sessions

Date	Day	Time	Venue
15 th or 16 th June	Fri or Sat	21:30 - 24:00 BST	Castle Heights Golf Course
7 th or 8 th September	Fri or Sat	20:30 - 24:00 BST	Dyffryn Gardens
21 st September	Fri	20:00 - 24:00 BST	Castle Heights Golf Course

NOTE Where two dates are given we will attempt to hold the session on the first date, weather permitting, otherwise we will try again on the subsequent date. All dates are subject to weather conditions. For confirmation of any session please check on the CAS Web site or the CAS Observing line 07817 723 883 for more information.

* Due to the current situation at Castle Height Golf Club the venue for the observing Sessions at Castle Height Golf Club are provisional and may be changed if circumstances require.

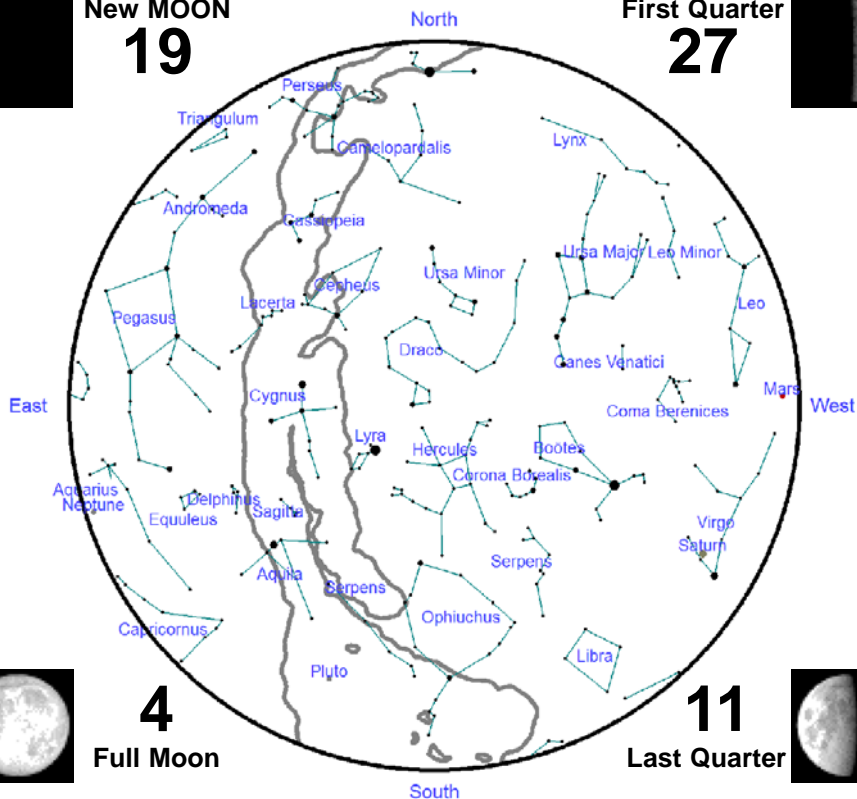
Almanac June

New MOON

19

First Quarter

27



4

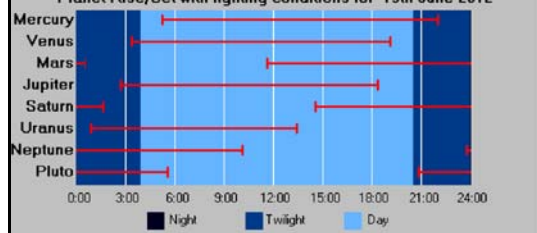
Full Moon

11

Last Quarter

	Constellation	R.A	Dec	Rises	Sets	Mag.
Mercury	Gemini	07h01m11s	+24°42'54"	05:11	22:01	-0.4
Venus	Taurus	04h37m07s	+20°11'07"	03:19	19:05	-4.1
Mars	Leo	11h27m26s	+04°20'23"	11:37	00:30	+0.7
Jupiter	Taurus	03h55m04s	+19°32'58"	02:41	18:19	-2.0
Saturn	Virgo	13h28m26s	-06°26'45"	14:32	01:36	+0.2
Uranus	Cetus	00h31m19s	+02°36'18"	00:51	13:23	+5.9
Neptune	Aquarius	22h22m09s	-10°50'09"	23:47	10:05	+8.0
Pluto (Dwarf)	Sagittarius	18h35m41s	-19°17'47"	20:53	05:33	+15.0

Planet Rise/Set with lighting conditions for 15th June 2012



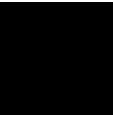
Planet Events

6th Venus at Inferior Conjunction (Transits)

	Time	Alt	AZ
1st Contact	22:10	-11	---
2nd Contact	22:27	-12	---
Max	01:30	-14	---
Sunrise	03:58	+0	50.3°
3rd Contact	04:37	+4.2	58.0°
4th Contact	04:54	+6.5	61.3°

The data presented here is for the 15th June, positional data is at 00:00 GMT/UT

Almanac July



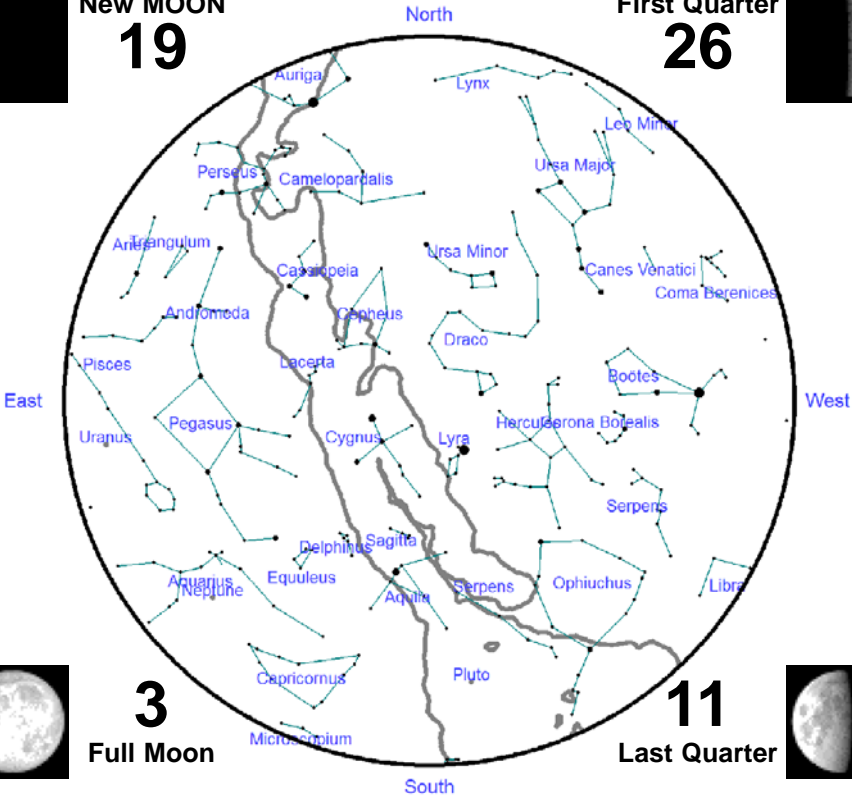
New MOON
19

First Quarter
26

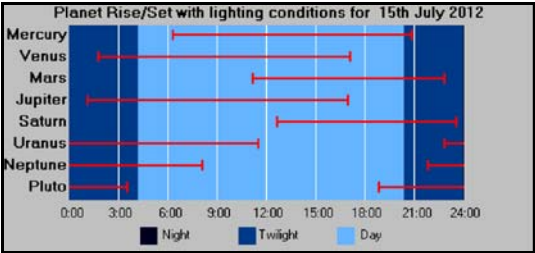


3
Full Moon

11
Last Quarter



	Constellation	R.A	Dec	Rises	Sets	Mag.
Mercury	Cancer	08h56m31s	+14°07'12"	06:16	20:49	+1.8
Venus	Taurus	04h46m57s	+17°43'12"	01:46	17:02	-4.5
Mars	Virgo	12h23m05s	-02°18'59"	11:08	22:50	-1.0
Jupiter	Taurus	04h21m49s	+20°44'30"	01:02	16:56	-2.1
Saturn	Virgo	13h29m06s	-06°39'08"	12:36	23:34	+0.3
Uranus	Cetus	00h32m31s	+02°43'01"	22:50	11:27	+5.8
Neptune	Aquarius	22h22m17s	-10°49'22"	21:49	08:08	+8.0
Pluto (Dwarf)	Sagittarius	18h32m32s	-19°23'33"	18:52	03:31	+15.0



Planet Events

28th Mercury at Inferior Conjunction

The data presented here is for the 15th July, positional data is at 00:00 GMT/UT

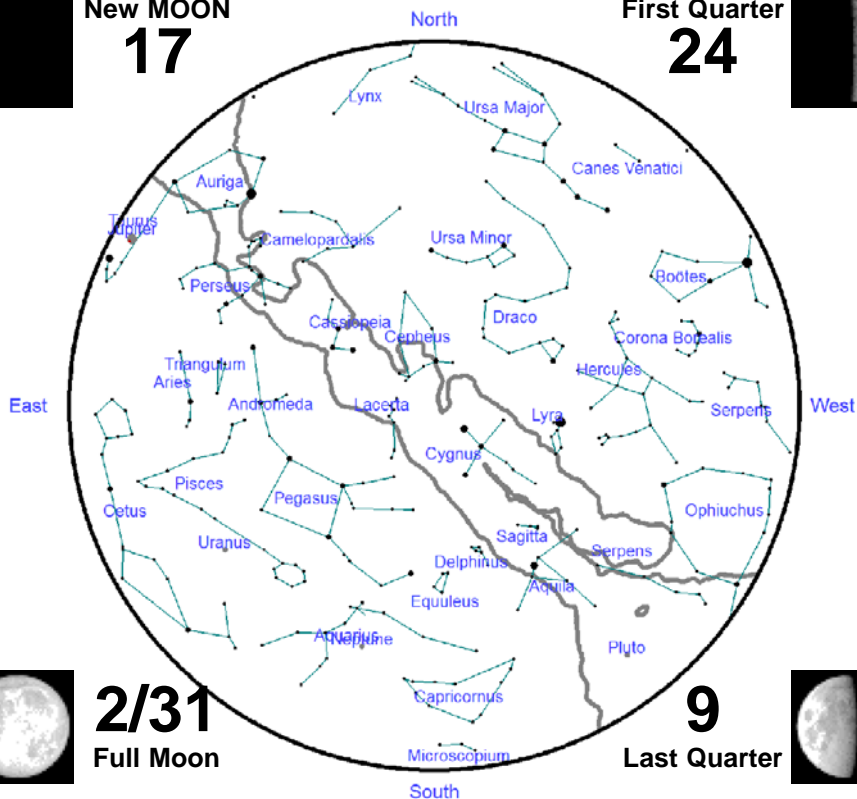
Almanac August

New MOON

17

First Quarter

24



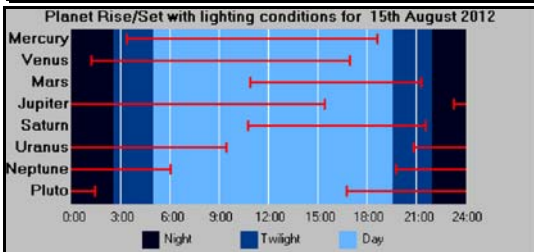
2/31

Full Moon

9

Last Quarter

	Constellation	R.A	Dec	Rises	Sets	Mag.
Mercury	Cancer	08h24m07s	+17°51'31"	03:20	18:37	+0.3
Venus	Genini	06h29m11s	+19°58'11"	01:12	16:56	-4.3
Mars	Virgo	13h30m29s	-09°47'53"	10:51	21:17	+1.1
Jupiter	Taurus	04h44m30s	+21°30'55"	23:14	15:22	-2.2
Saturn	Virgo	13h35m19s	-07°23'29"	10:44	21:34	+0.4
Uranus	Cetus	00h31m02s	+02°32'28"	20:47	09:22	+5.8
Neptune	Aquarius	22h22m26s	-10°48'34"	19:47	06:06	+8.0
Pluto (Dwarf)	Sagittarius	18h29m51s	-19°30'42"	16:48	01:25	+15.0



Planet Events

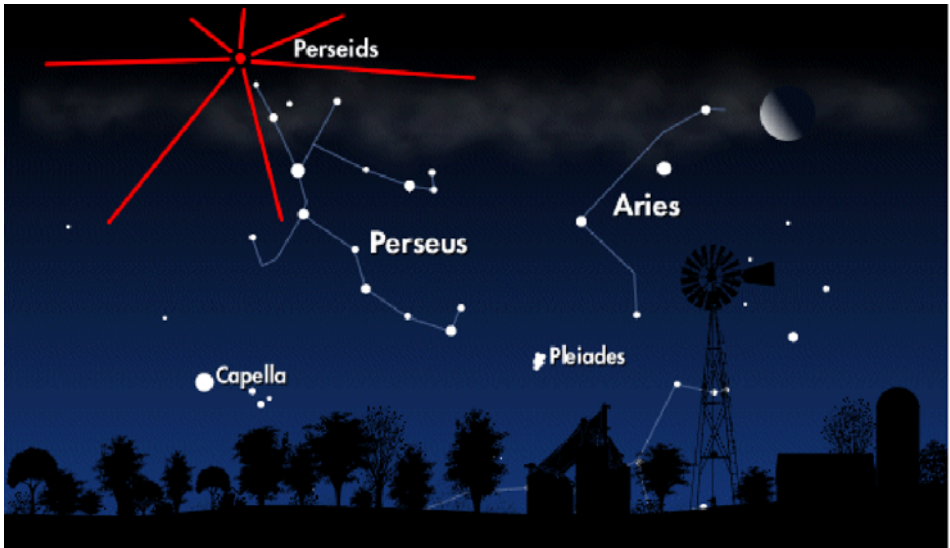
24th Neptune at Opposition.
25th Mercury at Perihelion (0.31 A.U.).

The data presented here is for the
15th August, positional data is at
00:00 GMT/UT

The Junior Page

Perseid Meteor Shower Amanda Peters

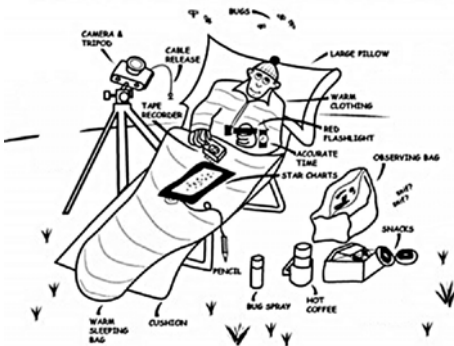
One of the most well known meteor showers is the Perseids. The peak of the shower takes place around about the 12th/13th August and 60 plus meteors may be seen an hour. The meteors appear to come from the constellation of Perseus the hero and the best time to observe them is after midnight.



Meteors (also known as shooting stars) are comet dust, left behind when a comet rounds the sun. The dust enters the Earth's atmosphere and heats up both the dust and



THE COMPLETE METEOR OBSERVER!



atmosphere causing a glow to be seen.

The Perseid meteors are dust left behind by Comet Swift-Tuttle. This comet has an orbital period of 133.28 years. It was last seen 1992 and was discovered by Lewis Swift on July 16, 1862 and by Horace Parnell Tuttle on July 19, 1862.

The meteor shower has been observed for many centuries. It is sometimes known as the Tears of St Lawrence as the shower occurs around about the date of the festival of St Lawrence, August 10th.

The earliest mention of the Perseids is from China in 36 AD when " more than 100 meteors flew thither in the morning."

The discovery of the shower's annual appearance is given to Adolphe Quételet (Brussels, Belgium), who, in 1835, reported that there was a shower occurring in August

that appeared to come from the constellation Perseus.

The best way to observe meteors is to wrap up warm, sit in a chair and look up.