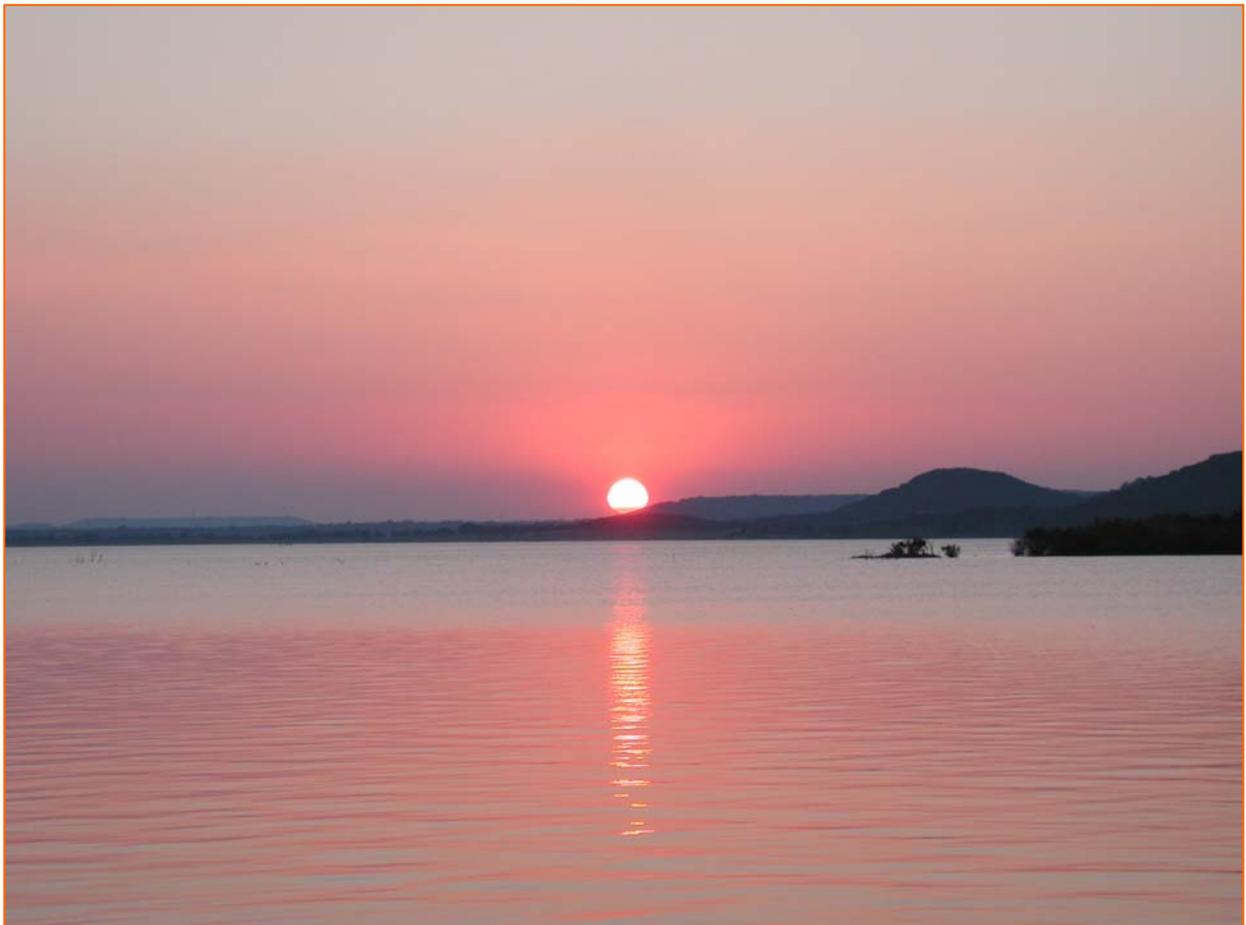


2002



NEXT MEETING
THURSDAY, 17th March 2011
THE ASTRONOMICAL SOCIETY OF HARINGEY
VOLUME 39 : ISSUE 5 : MARCH 2011

SOCIETY NEWS

MEETING VENUE :
Ashmole School, Southgate, London N14 5RJ.

The day for all meetings is usually the third Thursday of each month. The exceptions are August, when currently we do not hold a meeting, and December, when the Christmas Meet has always traditionally been held during the second week. However, in case of changes – and there have been a few over the last year or so – it is always advisable to double-check the dates below.

Doors open - 7.30pm : Main speaker - 8.00pm. Finish - 10.00pm

2011

The programme for this coming year is still being finalised, though we aim to have a number of our regular speakers throughout the year, and hopefully some new ones.

The dates currently scheduled are as follows, though some may have to be changed due to school holidays.

March 17th : Jim Webb : Stellar Furnaces - How to Stoke the Nuclear Fires

April 21st : Jerry Stone : The Next Fifty Years in Space

May 19th

June 16th

July 21st

August - Summer Break

September 15th

October 20th

November 17th

December 8th Christmas Party and Guiz VII

The Committee is however looking at whether it is worth continuing doing the Party, either on the traditional December date, or - as happened this year - in January, (especially as that was not very well attended). Any feedback from the Society would be welcome - either by letter or phone to the Chairman, (details back page), or email to <info@ashastro.org.uk>

COVER

How we usually view the Sun - as a spectacular sunset. But there's a bit more to our nearest star than this. Without it, well you wouldn't be reading this as you wouldn't be here - nor would Life on Earth. So the Sun is rather important. For this next meeting Chairman Jim will be taking a look at just the Sun works - and just how long it will work for...

Incidentally, in case you are wondering, the photograph was taken by your Editor, while sitting on the shoreline of a reservoir in central Texas in 2005. It is a large reservoir - everything is bigger in Texas...

SOCIETY NEWS

We meet in what is now the Music Room at Ashmole School. (This was the Curriculum Support Building - and still noted as such in the map.) This is the low building, (in the centre of the photo), just past the Performing Arts Centre and opposite the main entrance to the technology block.



2002 in Electronic Form

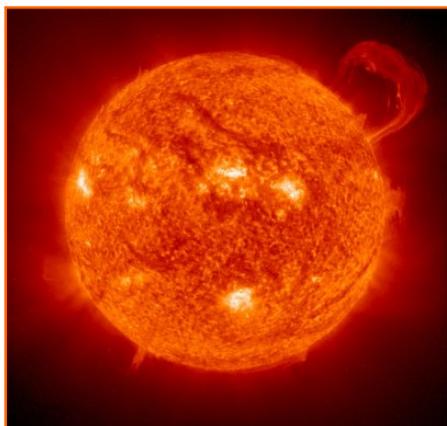
The Committee is still continuing its ideal of getting as many onto an electronic version of 2002 as possible as a) it saves printing costs and - especially - b) saves mailing costs! If have still not done so, and would like to receive your 2002 by email, (it comes as a pdf), please email <info@ashastro.org.uk> However the Committee would also like to emphasise that this is in no way obligatory and of course if you would still prefer to receive a hard copy through the post, (whether you are on email or not), this is perfectly acceptable.

The Committee has also talked about getting a presence on Facebook for the Society, (as it seems to be the 'in thing'...), and also whether to send out text messages, where changes to meetings; speakers or frankly anything 'interesting' can be sent out. Arguably this also could be done by Twitter, but currently we feel a combination of Facebook and texting will suffice at the moment. We assume most these days will have a mobile cell phone, so could you please send the number to <info@ashastro.org.uk>. (Note, if you don't actually have a cell phone, that texts can also be received by BT landlines, when they are read out.)

MEETING PREVIEW : March 17th : **Jim Webb : Stellar Furnaces - How to Stoke the Nuclear Fires**

Apologies, a late announcement, but this month's meeting will be a talk from your Chairman, Jim Webb, speaking about the secrets of the Sun!

We take the Sun for granted, but without it, there would be no us, and no living anything, on Earth, so in that way it's a bit important.



But generally it never comes into the conversation, except when it's not there and it's cold and wet, but that hardly the Sun's fault - it's above all these Earthly foibles - literally - it's still there, 93 million miles away shining brilliantly in the depths of space.

So to find out more, and the current thinking, March 17th is the date.



MEETING REVIEW : February 17th
Roger O'Brien : "The Herschel Mission - The Infrared Eye in the Sky"

Roger gave one of his usual entertaining talks for the last meeting, on one of the latest space observatories, Herschel. The giant mirror can be seen, right.



One of the amazing images from Herschel - this 'Galactic Bubble', RCW 120, which lies around 4300 LY distance. It is formed by a star at its centre, but this is not visible at these infrared wavelengths. However it has pushed out the surrounding dust and gas - using nothing more than the power of starlight. In the 2.5 million years the star has existed. It has raised the density of matter in the bubble wall so much that the quantity trapped there can now collapse to form new stars.

PHOTO : ESA/PACS/SPIRE/HOBYS Consortia

Right - the usual bottle of ASH 2002 wine is presented to our camera-shy speaker.



CHAIRMAN'S QUARTERS



I recently came across an article about *Watson*, the IBM supercomputer that took on two human contestants in the American game show *Jeopardy!* In the much publicized program, Watson actually beat the contestants and 'took home' a cool \$1,000,000. (IBM has very kindly offered to donate this to the charities, *World Vision* and *World Community Grid*.) So what made Watson so good? Well, for a start this computer has a core of 90 IBM Power 750 servers and access to an enormous database. It also has behind it a massive team of programmers who had refined the database access and question interpretation algorithms to a truly remarkable level. Of course, the media are now extolling the superb intelligence of this wonderful machine and extrapolating to when these will be answering all our questions for us.

We have the HAL 9000 computer from *2001 : Space Odyssey* to thank for this. Science fiction movies always portray computers with levels of 'intelligence' far beyond their actual capability. In its essence, a computer consists of circuits that can invert, perform logical *AND* and *OR* functions and store bits of data (0s or 1s). By combining these functions we can produce microcontrollers and central processing units (CPUs) for computers. The CPU will take a sequence of instructions and carry it out ceaselessly until either interrupted or switched off. Their 'power' comes from the fact that these instructions can be carried out fast - *VERY* fast. Having said that, physics has imposed a speed limit of about 3.5GHz on the micro, forcing manufacturers to produce CPUs with multiple processors on board to 'parallel process' the instructions. Without a sensible set of instructions to serially carry out, a computer is just a mass of beautifully made silicon, copper and other components (worthy of display in an art gallery). Once the set of instructions begins to operate, the computer will continue relentlessly surging through its fixed instructions until someone turns it off, or in the case of a laptop or other battery-operated device, it runs out of power!

Without human intervention, the processors themselves would never have been developed and furthermore the programming is a wonderful testament to the people that had the imagination to develop it. It has opened up a vast world of possibilities but at the same time is creating a subculture of subservience to these machines. A simple example of this is car manufacturers. They are becoming dependent on software to design cars that have low drag factors and other 'green issues' to the point that all modern cars – regardless of manufacturer – are looking bulbous and very similar! As for intelligence, the computer is only as good as the human who dreamed up the software to emulate this 'artificial intelligence'. Computer people revel in jargon. One of the most valuable of these is GIGO – *Garbage In Garbage Out!* Give a computer rubbish data and it will produce rubbish results. Of their own accord, computers do not have the ability to evaluate what is rubbish and what is not unless specifically programmed so in the minutest detail.

This all adds up to the fact that despite its astonishing speed and complexity, the computer is just a tool (one minute a spanner, the next a hammer!) – the ultimate slave. We just have to make sure we don't become the 'Tools'! However, this does become yet another testament to the ingenuity of us humans.

See you at the meeting,

JIM

Name that Chemical!

Jim Webb

I did hint that our chemicals would get a bit more rude. As I said a while back, chemists are often 'restricted' by convention and some names end up being real corkers. *Gonadoliberin* is a mild start. It sounds like this protein could make a man's 'tackle' to drop off. In reality it is a hormone that is involved in controlling the reproductive cycle of many animals, including us humans. Going to a female variety, we have *Hymenin* - a molecule for chemistry virgins? Hymenin is a remarkable alkaloid which contains bromine and was isolated from the marine sponge *Hymeniacion* sp. found in the Philippines.

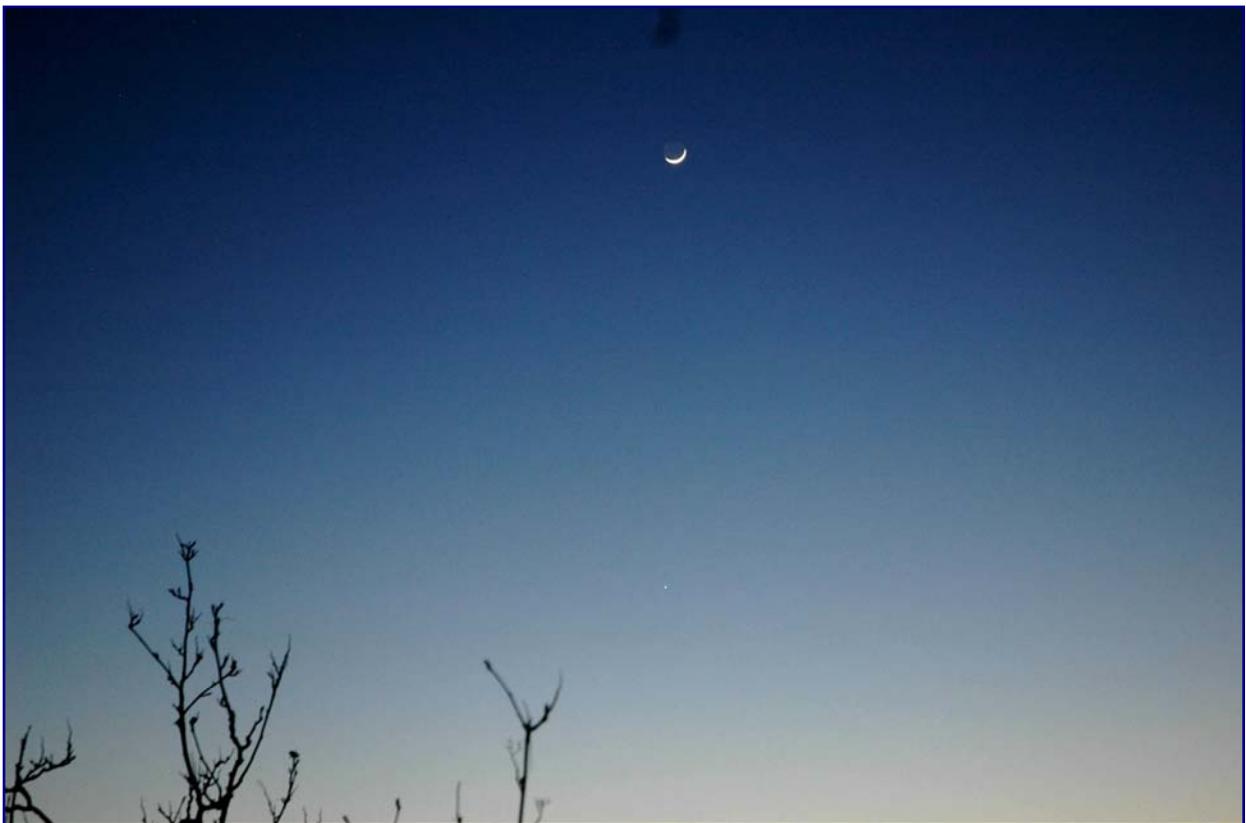
Turn around and you might find *Anol*. This is a synonym for 4-(1-propenyl)phenol, and is apparently used in the flavour industry. Would compounds that bond strongly to this molecule called 'anolly retentive'? Similarly there is *Assoanine*. This molecule gets its wonderfully asinine name from the plant from which it is extracted... *Narcissus Assoanus*! With a bit of chemical jiggery-pokery you can make a derivative of it called *Oxoassoanine* (it doesn't bear thinking about)! Talking of 'baring', we have one for naturists - *Nudic Acid*. This is actually an antibiotic derived from mushrooms of which the species *Tricholomo Nudus* was the origin of its name. *Erectone* is neither a consequence of too many nudists nor is it one of the ingredients in Viagra. It is actually one of a group of compounds extracted from the far Eastern herb *Hypericum Erectum*, which is often used in traditional Chinese medicine to treat arthritis, rheumatism, and also as an astringent. Of course, in these circumstances, some protection may be needed but *Profilactin* isn't one of them! *Actin* is the fibre protein responsible for muscle contraction, and *profilin* is the protein that interacts with it to promote filament formation. The profilin and actin bound complex was originally called *Profilactin*, which was most appropriate since it was first isolated in sea urchin sperm! Intriguingly, the first submitted name for this protein was 'screw-in' because when the filament is ejected from the tip of the sperm, the globular actin shoots outward in a screw-like motion. It never stuck! We finish off with *Urospermal*. This isn't an attempt by the European Union to standardise anything they can lay their hand on (Euro-sperm-all). It is actually a sesquiterpenoid that gets its name from being a constituent in the roots of the plant *Urospermum Delachampii*.



Be warned, there will be more!

And this month's picture? Thought we'd play it safe. This is a rock-pool - there's probably a sea urchin in there somewhere...

SKY VIEWS



One of the conjunctions this month, the crescent Moon and Jupiter - top on 6th March, bottom the following day. See *The Night Sky* for the next conjunctions, especially Jupiter and Mercury.

The Night Sky : March - April 2011

THE PLANETS

MERCURY : The best apparition this year will be the end of March, into April, when it will be in the evening skies 16 degrees above the Sun. The optimum date will be 23rd March. Mercury, at Magnitude 0, will be directly above where the Sun has set and should be visible and reasonably easy to spot from around ½ hour after sunset. Note that Jupiter and Mercury are in conjunction from around 8th to 20th March, weaving a pattern in the western skies with the closest approach on 14th.

IT IS ALWAYS WORTH REPEATING THE WARNING OF NEVER TO LOOK DIRECTLY AT THE SUN - PARTICULARLY WITH ANY OPTICAL DEVICE.

VENUS : As with Mercury, Venus did not have a good showing at the very beginning of the year, but now in March things are improving. The planet is in the morning skies in Sagittarius. As a pointer to Neptune, the more distant planet will be 2° south of Venus on 27th March. Moon is 6° north on 31st March.

MARS : Not easily viewed for the first half of the 2011, as the planet was in conjunction with the Sun on 4th February. The best viewing will not be until September, and even then the planet will only be five arc-seconds in apparent diameter. It will be last week of 2011 before Mars will present any significant viewing opportunities, but even then the best opportunities will have to wait a year until March 2012.

JUPITER : Jupiter is still visible in the night skies during the early part of this month, but is approaching conjunction with the Sun on 6th April, but before it disappears, we get these conjunctions with Mercury. See also : MERCURY

SATURN : At opposition on 4th April. The planet will spend the whole of the year in Virgo, in the evening skies for the first half around 0.4 Magnitude, and, after conjunction, 13th October, will re-appear in the morning skies. The rings are well placed for viewing this year, even in a small telescope. Moon 8° to the south, both on 21st March and 17th April.

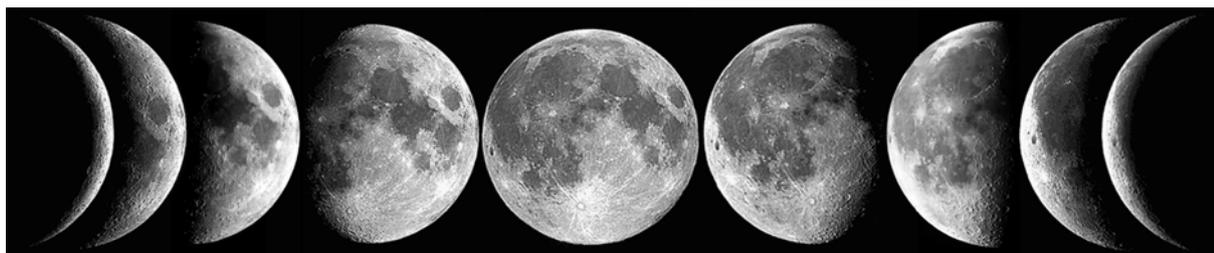
URANUS : In conjunction with the Sun, 21st March.

NEPTUNE : In Capricornus, heading towards Aquarius. See also : VENUS

METEORS

The next meteor showers are the Lyrids, peaking 23rd April, and Eta Aquarids, 6th May

THE MOON



NEW 4th March
NEW 3rd April

FIRST 12th
FIRST 11th

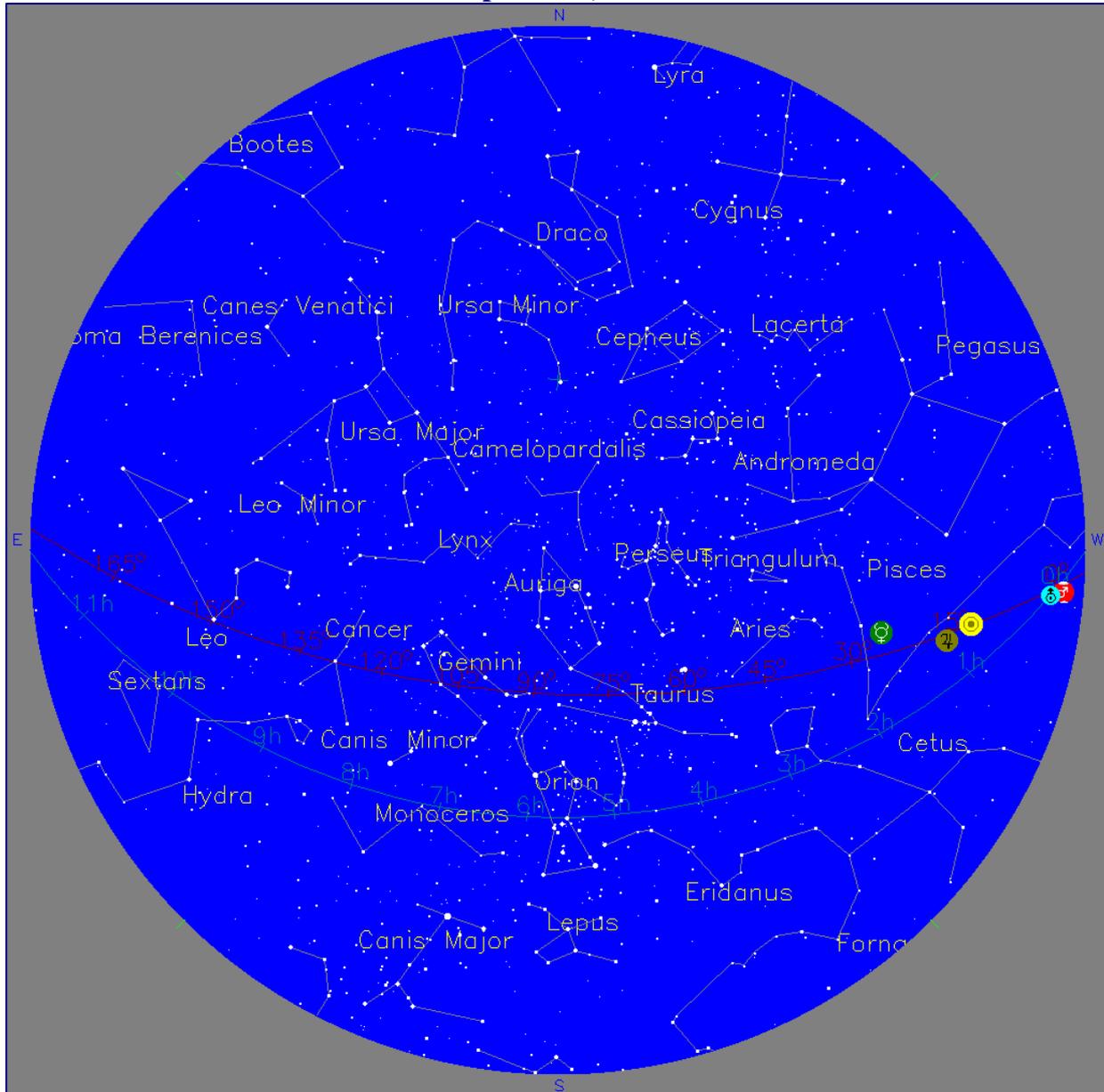
FULL 19th
FULL 18th

LAST 26th
LAST 25th

NEW 3rd April
NEW 3rd May

THE NIGHT SKY : NOVEMBER - DECEMBER

As of 1st April 2011, 17:00:00 UT



Note this map is timed for slightly earlier than usual at 17.00hrs - as four planets and the Moon are all in the same part of the sky! By 20.00hrs, these have all set and only Saturn is visible!

KEY	
 MERCURY	 SATURN
 VENUS	 URANUS
 MARS	 NEPTUNE
 JUPITER	 PLUTO