

2002



NEXT OFFICIAL MEETING
THURSDAY, 17th September 2015
THE ASTRONOMICAL SOCIETY OF HARINGEY
VOLUME 43 : ISSUE 9-10 : July-August 2015
www.ashastro.co.uk

SOCIETY NEWS

MEETING VENUE

Music Block, Ashmole School, Southgate, London N14 5RJ.

The day for meetings is usually the third Thursday of each month. The exceptions are August, when we do not hold a meeting, and this now currently applies to the July and December meetings, though that may alter in the future.

However, in case of changes it is always advisable to double-check the dates below.

Doors open - 7.30pm : Main speaker - 8.00pm : Finish - 10.00pm sharp!

For more on this, and general meeting information, also check the website:
www.ashastro.co.uk. Latest update: July 2015.



OBSERVING EVENINGS

Regarding any changes to Observing Evening meetings, this is a continuing message to let Observing Officers Jim Webb or Alister Innes know your mobile phone number, and if not already on the list, your email address; emailing to observing@ashastro.co.uk reaches both of them. The Facebook page will now also be used.

2015

July and August : No meetings these months

July 28th (Tuesday) : Star Gazing Picnic, Billericay CM11 2UD
: see **SOCIETY NEWS** for more details

September 17th : Jerry Stone : "The Race into Space"

October 8th : *Michael Franks "Who Owns the Moon?"*, including AGM
: Note this date is a week earlier than usual to coincide with Space Week

November 19th : *Observing Evening*

December : No meeting this month

COVER:

This has to be a Pluto issue of course. Here the first close up image of the 'planet' (it may officially be a 'dwarf planet', but as Jerry Stone said in his "*Is Pluto A Planet?*" talk, it's still "a planet"...) taken at the closest approach of the spaceprobe New Horizons on 14 July 2015. More details and images in the magazine.

Photo: NASA

SOCIETY NEWS



Find us on
Facebook

For up-to-date information, we are now using that 'necessary evil' - Facebook. Note as this is an Open Group you do not have to be a member of Facebook to read posts and messages, you just need some form of Internet access.

Go to : www.facebook.com/groups/ASHastro/

However if you want to 'interact' (ie post messages), you have firstly to join Facebook, then on the ASH Facebook page, ask to join our Group, and you will get 'signed up'. So far we don't have that many members that have joined - and some of those aren't even members of the Society, though no problem with that. Anyway a few more would be good!

MEETING ROOM



We currently meet on the first floor of the Main Music Block at the School. This is the two-storey building, next to our original room, the original Music Room. This is marked with the X in the photo on left, (and although it is demolished, the site is currently being redeveloped with a new structure). We hope a first floor will be suitable for all, as there isn't a lift. If anyone feels they will have difficulty, please let the Chairman know. Contact details on back page.

IMPORTANT MEMBERSHIP ANNOUNCEMENT

Repeat from last month



Since our previous Treasurer Gordon Harding sadly passed away February 2013, and until recently, we've been unable to get hold of the Society's membership and payment records.

However I can now inform all members that as of 11th June 2015 the Society's bank released all the required details. We can now see all the standing orders and other payments which have been reaching the Society.

Any members who have received a renewal notice, despite already renewing by standing order can safely disregard the renewal notice - we now know you've renewed your memberships. Thank you for bearing with us.



Any members who want to start renewing by internet banking or standing order should contact me as the Society's new Treasurer, (contact details are on the back of the magazine), and I'll provide you with instructions and bank details.

Note there is also a downloadable membership form, as a pdf, on the website - go to the ABOUT page

Kyri Voskou - ASH Treasurer

MEETING PREVIEW 28th July : Stargazing Picnic

The Society is organising a Stargazing Picnic, Tuesday 28th July at Barleylands Craft Village and Farm Centre, Barleylands Road, Billericay CM11 2UD, between 7.00pm and 10.30 pm as part of the Essex Mega Geocaching Event.

Provisional Event Schedule:
19:00 to 20:00 Picnic Time
20:00 to 21:00 Presentation and rocket building
21:00 to 22:30 Stargazing

We could likely have upwards of 200 people of all ages attending, though much of course will dependant on the weather. I am bringing two telescopes with me so hopefully it will be clear enough for stargazing. There is also an International Space Station pass that evening. If we have to move indoors because of rain, I have been building stomp rocket launchers, seven so far and I have printed 150 paper templates to cut up and turn into rockets.

Michael Franks

MEETING PREVIEW 17th September : Jerry Stone : "The Race into Space"

Full preview details will be in the next issue of 2002 (due early September), but as a taster, this will be the first outing of a new talk by regular speaker, Jerry Stone, using the Brooke Bond tea card set, The Race into Space, as a starting point!



MEETING REVIEW 18th June : Mat Irvine : "Once Upon A Time"



I trust all enjoyed a somewhat different type of talk I did in June? But then again,

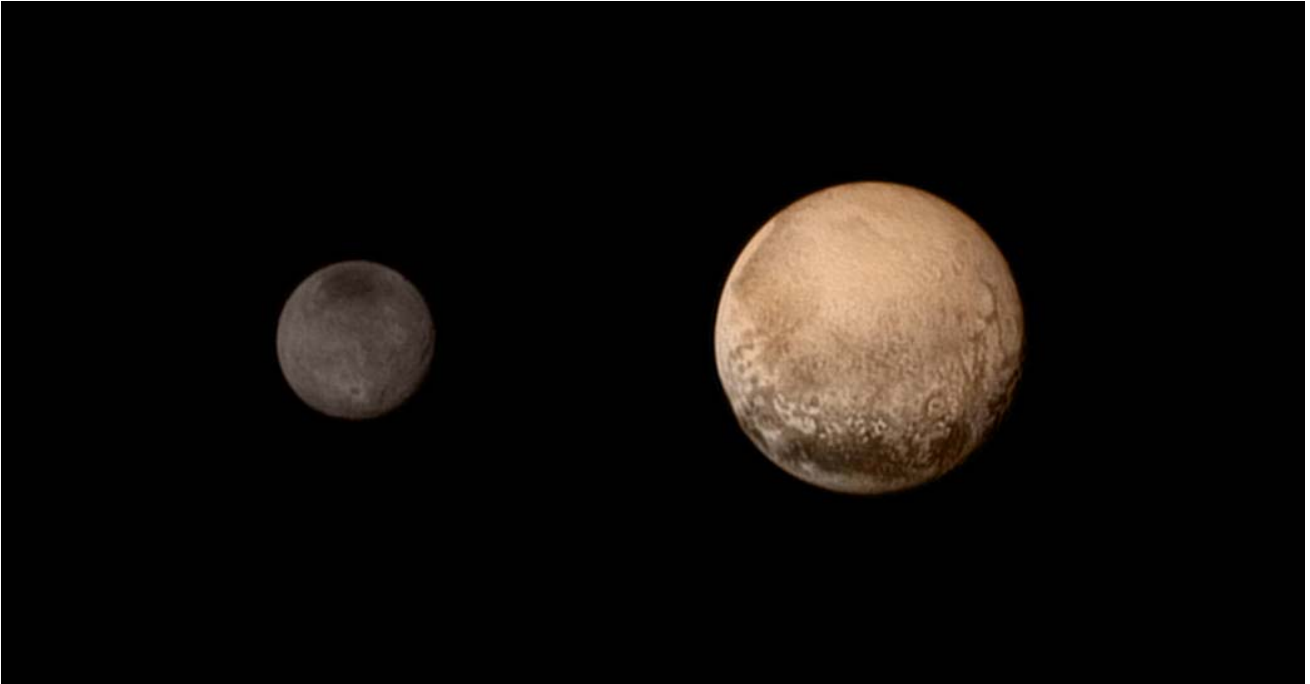
as I said when I introduced it, the Society is nothing if not eclectic in its tastes!

The House on the Rock certainly fulfils the ASH's 'fantasy element' in its remit!

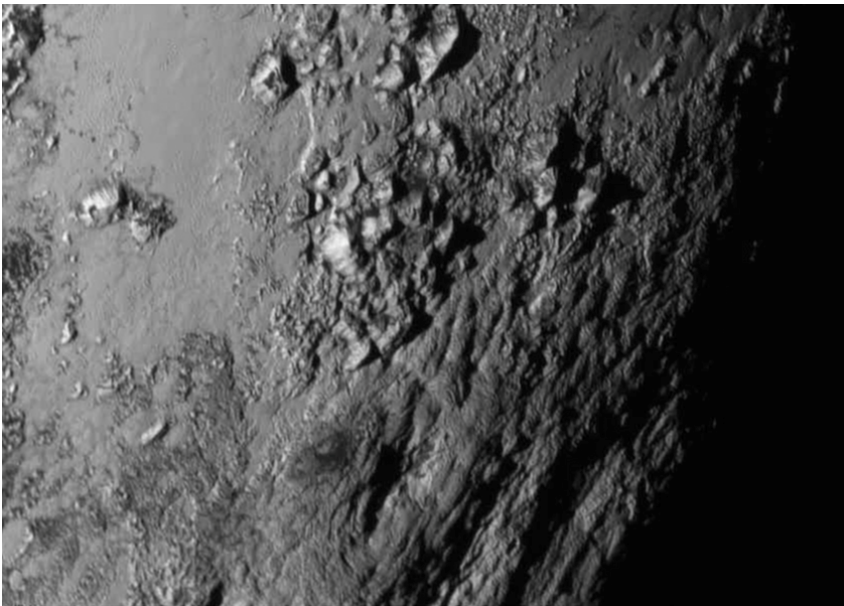


The Little Spaceprobe That Could...

It's been almost 10 years and a journey of three billion miles, but the spaceprobe New Horizons finally reached, what is still invariably termed 'the outermost planet' Pluto. And by the time this is read, it will have long sped through Pluto's small planetary system - itself and the five satellites; Charon, Nix, Hydra, Styx and Kerberos - but still sending back a signal at a power the equivalent of a 30 watt light bulb and at a transmission speed that would make an old dial-up modem feel proud! (Below Charon and Pluto, bottom, the Ice Mountains)



The New Horizons mission was planned to understand where Pluto and its moons "fit in" with the other objects in the Solar System, such as the inner rocky planets (Earth, Mars, Venus and Mercury) and the outer gas giants (Jupiter, Saturn, Uranus and Neptune). Pluto and its largest moon, Charon, form a third category known as 'ice dwarfs'. They have solid surfaces but, unlike the terrestrial planets, a significant portion of their mass is icy material.



Before the probe had its closest encounter with the Pluto system on July 14, the New Horizons team, using Hubble Space Telescope images, discovered four previously unknown moons of Pluto; now named Nix, Hydra, Styx and Kerberos.

But New Horizons had not finished its mission. It flies on though the Kuiper Belt exploring more of these icy outermost bodies of the Solar System.

SKY VIEWS

The last days of June saw the closest conjunction of Venus and Jupiter for some years. This was the view (right) on 28th taken by your Editor.

Then the last observing meeting was fortunately held the day before the closest approach on 29th June; 'fortunate', as the 30th was cloudy, from that site at least.

Several members of the Society gathered, and were pleased to welcome some visitors as well. The skies were clear and Treasurer Kyri Voskou, got these shots. (right and below)



Meanwhile on the 30th Chairman Jim took this photo (right) showing the brighter Venus and Jupiter at their closest, while your Editor shot this (below). Then a day later, July 1st, below right - from Jim, showing the movement between the two.



CHAIRMAN'S QUARTERS



Pluto has hit the headlines, big time! A highly successful mission, and now we wait for the slow transmission of all the data collected. When Pluto was discovered in early 1930, it was as big news then as it is now. Interestingly, it was at a time of great economic upheaval – the Wall Street Crash of 1929; we are currently seeing some big financial upheavals in Europe; 'The Greek Crash'. (As an aside, the 1929 Crash was left to play itself out, as no-one knew how to deal with it, with the result being a relatively rapid recovery. Today, everyone is trying to interfere and stabilise things. Unfortunately, the results of this tinkering appear to be ever increasing instability and uncertainty.)

The planet's discovery had some interesting knock on effects. Walt Disney named Mickey Mouse's pet Pluto in late 1930 – he never actually admitted that he was influenced by the discovery but anecdotal evidence suggests that he was. Glen Seaborg discovered element 94 the following year, and named it Plutonium – elements 92 and 93 are named Uranium and Neptunium, respectively. As another aside, *plutos* (πλούτος in Greek) means wealth!

Enough of Pluto – the God of the Underworld. Let's go 'Over World'. I recently read that Denmark now generates all of its electricity by wind power. This means that the countryside must be littered with huge wind turbines. 'Green' as this process is, there is emerging evidence that there is a big downside that no-one wants to see. Absorbing this amount of energy from the wind affects the local micro-climate and on larger installations, it seems to be changing the large scale climate as well. Driving around Europe, recently, I was surprised how many of these turbines there are scattered around the countryside. Are we affecting the temperature of the local environment by reducing the cooling effect of the wind? Are we affecting animal and bird behaviour by changing the way air circulates? Local people in Wales have noted these changes already. Science, of course (which doesn't live locally and doesn't always take into account 'non-specialists'), needs 'hard facts' and years of rigorous research (often paid for by organisations who want to see a specific result) before a conclusion is reached. By this time, the 'damage' will probably have been done so they will subsequently embark on the problem solution process (or a cleanup) to sort out what 'went wrong'.

With the amount of CO₂ we are pushing into the air and other atmosphere warming industrial processes we are involved in, the Earth's average surface temperature is rising. Great for going out and sunning one's self on the beach in the summer, even though many of the traditional Mediterranean sun havens seem to be suffering from more and more sporadic storms. So what is going on? Well, another recent article suggests that there is "evidence" that we are heading for another mini Ice Age within the next couple of decades! Geological evidence hints that we are heading that direction, anyway; the modern difference is that we are merely accelerating the process. Warmer surface water melts the polar ice caps, which we are seeing in satellite images, and the resultant cold water sinks to the ocean floor and pushes more warm water to the Poles. This causes more cold water to sink and push more warm water to the Poles. This is a process called positive feedback, which causes a stable state to rapidly switch to another stable state. This new stable state is the Ice Ages throughout our recent geological history, which occur approximately every 10,000 years. Note the last one was 10,000 years ago.

So this latest scientific prediction is hardly a prediction but more a realisation that nature has a way of going about things on such a scale that our 'interference' is of little more significance other than for accumulating lots of data which will take years to assimilate and eventually go into yet another database for someone else to re-discover! Sometimes letting things get on with it is the best solution and learn to just quietly, but actively, observe and see what happens.

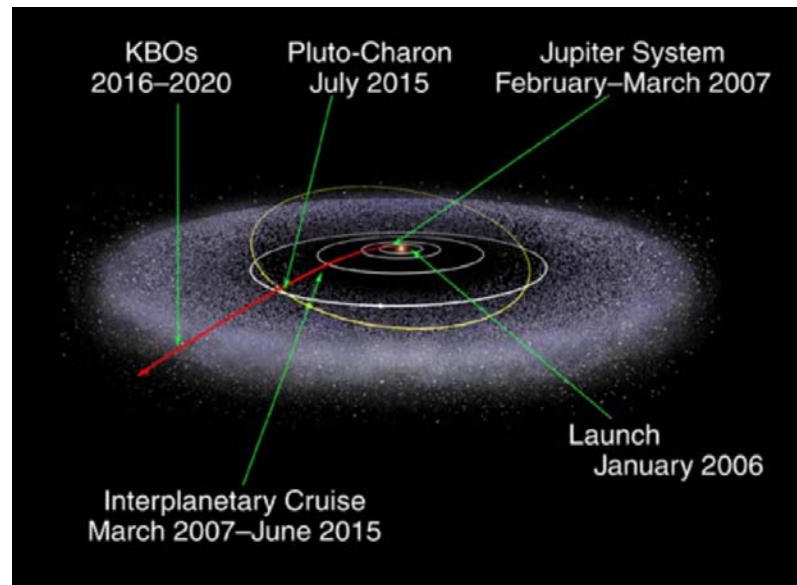
See you at the next meeting

JIM

[NEWS - compiled by Kyri Voskou](#)

Next for New Horizons

The news over the few weeks has focussed on the Pluto flypast but what's going to happen to the New Horizons spaceprobe next? Is it goodbye for ever? Far from it! Astronomers are confidently predicting another two decades of useful operations for the probe, which has revealed icy mountains and hinted at an active geology on the 'ex-planet'.



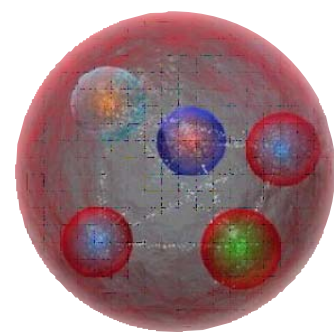
Over the next year or two the probe will head towards another target – a Kuiper Belt Object (KBO). The Kuiper belt is an area of the Solar System beyond the orbit of the planet Neptune, with Pluto being its largest known inhabitant. Although the next target won't be selected until later in August there's already plenty of excitement about this new stage in New Horizon's adventure.

After that rendezvous the probe will go on to explore the far edges of the Solar System, much as the Voyager probes have, but with vastly better instruments. It is thought that data will be collected for two decades before the probe runs out of juice, however if previous NASA missions are anything to go by the equipment and power supplies might well hold out for longer and the mission could continue much further into interstellar space than currently expected.

Hadron Collider finds 'new' particle

The Large Hadron Collider at CERN has been quick to produce results after its recent upgrade. A new kind of subatomic particle, previously hypothesised but never observed, has now been found.

The *pentaquark* was first proposed by George Zweig and Murray Gell-Mann – the team that invented the term 'quark' but, since they did so some fifty years ago, the existence of the particle had become a doubt.



LHC's Guy Wilkinson announced "*The pentaquark is not just any new particle ... It represents a way to aggregate quarks, namely the fundamental constituents of ordinary protons and neutrons, in a pattern that has never been observed before in over fifty years of experimental searches. Studying its properties may allow us to understand better how ordinary matter, the protons and neutrons from which we're all made, is constituted.*"

Aircraft are weather changers

A new study has produced evidence that aircraft have an effect on the weather.

An aeroplane's contrail can result in a temperature change by restricting the maximum and raising the minimum temperatures. Contrails are formed when water vapour condenses onto the small particles in an aircraft's exhaust, forming clouds.

Two regions in the USA were studied – the South and Midwest areas, with results suggesting that temperature variations were up to six degrees Fahrenheit lower in the presence of contrails with variations becoming gradually larger as the number of contrails decreased.

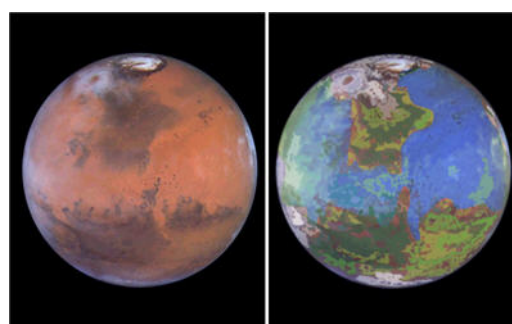


Transforming planets

Terraforming is the process of changing planets. Using various processes, such as introducing bacteria to turn carbon dioxide into oxygen, it's possible to make a planet habitable.

The Defense Advanced Research Projects Agency (DARPA) in the United States appears to be on track with a project to adapt micro-organisms for just such a purpose.

The deputy director of DARPA's Biological Technologies Office, Alicia Jackson, has said "For the first time we have the technological toolkit to transform not just hostile places here on Earth, but to go into space not just to visit, but to stay." Using modern genetic techniques to adapt bacteria, scientists can produce an organism that will change the environment around it in a very specific way, however there are growing concerns about the effect that such a technology could have on Earth. Initial uses are expected to include rehabilitating areas on our own planet which have been damaged by pollution and this could lead to unexpected results or the introduction into the environment of organisms which bring with them unforeseen side-effects.

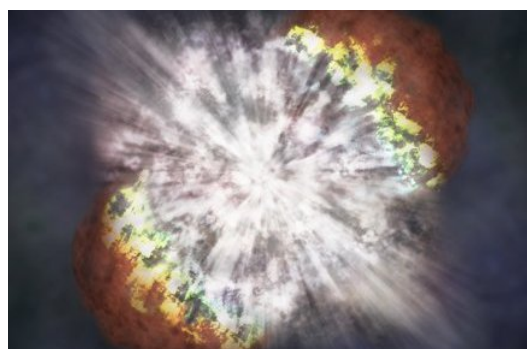


Light from brightest ever supernova reaches Earth

A superluminous stellar explosion has taken place in the constellation of Indus – or rather the light from the supernova has just reached us. The actual explosion took place nearly 3 billion years ago and the light has been making its way towards Earth ever since.

After it was first detected on June 14 the supernova shone as brightly as 600 billion suns – half a dozen times bigger than the previous record holder, before subsiding.

Supernova ASASSN-15lh is one of the few superluminous supernovas that have ever been observed and scientists are still none the wiser as to how these events occur. On-going study of the remnants of the incident may yield some clues as to what the mechanics of these outbursts are, but our understanding over the next few years will probably be based more on theory than knowledge.



THE NIGHT SKY : THE PLANETS : July - September 2015

MERCURY : at superior conjunction on 23rd July, so moving back into the evening skies. Close to Venus on 5th August, and close to Jupiter on 7th August. Moon close on 16th August. At greatest elongation west on 4th September.

VENUS : begins to close back on Jupiter, having some six degrees of separation on 31st July. At inferior conjunction on 15th August, and at its closest to Earth on 16th. Venus is to the south of the Moon on 10th September, while Mars is to the north.

MARS : reached superior conjunction (behind the Sun) on June 14th. Consequently it will be few months until it becomes a worthwhile object for viewing. However will be close to the Moon and Venus on 10th September.

JUPITER : following its close conjunction with Venus on June 30, it stays close to the far brighter planet for much of July, both seen in the western sky at sunset, but they are sinking into the twilight and so viewing will be limited.

SATURN : in the south-west as it gets dark. To find the planet follow the arc of the Plough's handle downwards, first to the orange star Arcturus and continue down to the white, first magnitude star, Spica, in Virgo. Saturn, a little brighter than Spica, lies in Libra down to its lower left and appears slightly yellow in colour. Large binoculars or a small telescope will show Titan, and the rings. Saturn rotates quickly, its day is only just over 10 'Earth hours', which makes it appear 'squashed'. The planet has belts like Jupiter but they are far more muted in comparison.

URANUS : Stationary on 26th July. Moon to the north on 5th August and 1st September.

NEPTUNE : The planet was stationary on 12th June. Moon close on 2nd August. At opposition on 1st September

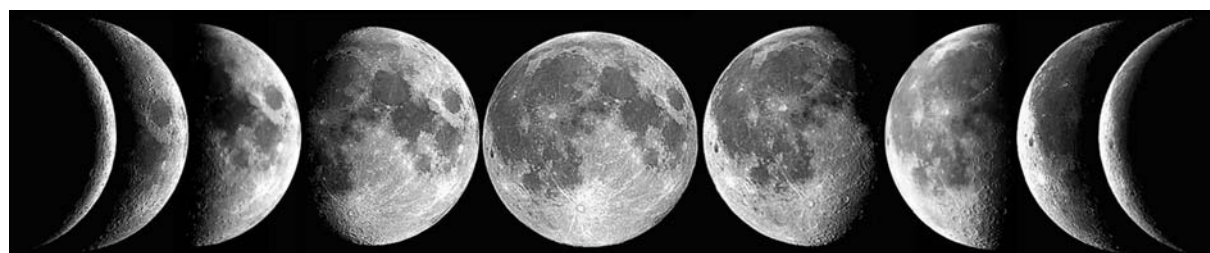
PLUTO : The Spaceprobe New Horizons reached what was the 'outermost planet' on 14th July. If you have the equipment, it can be located in Sagittarius.
(See The Night Sky map.)



METEORS

Delta Aquarids peak 6th August; Perseids 13th August

THE MOON



New 16th July
New 14th

First 24th
First 22nd

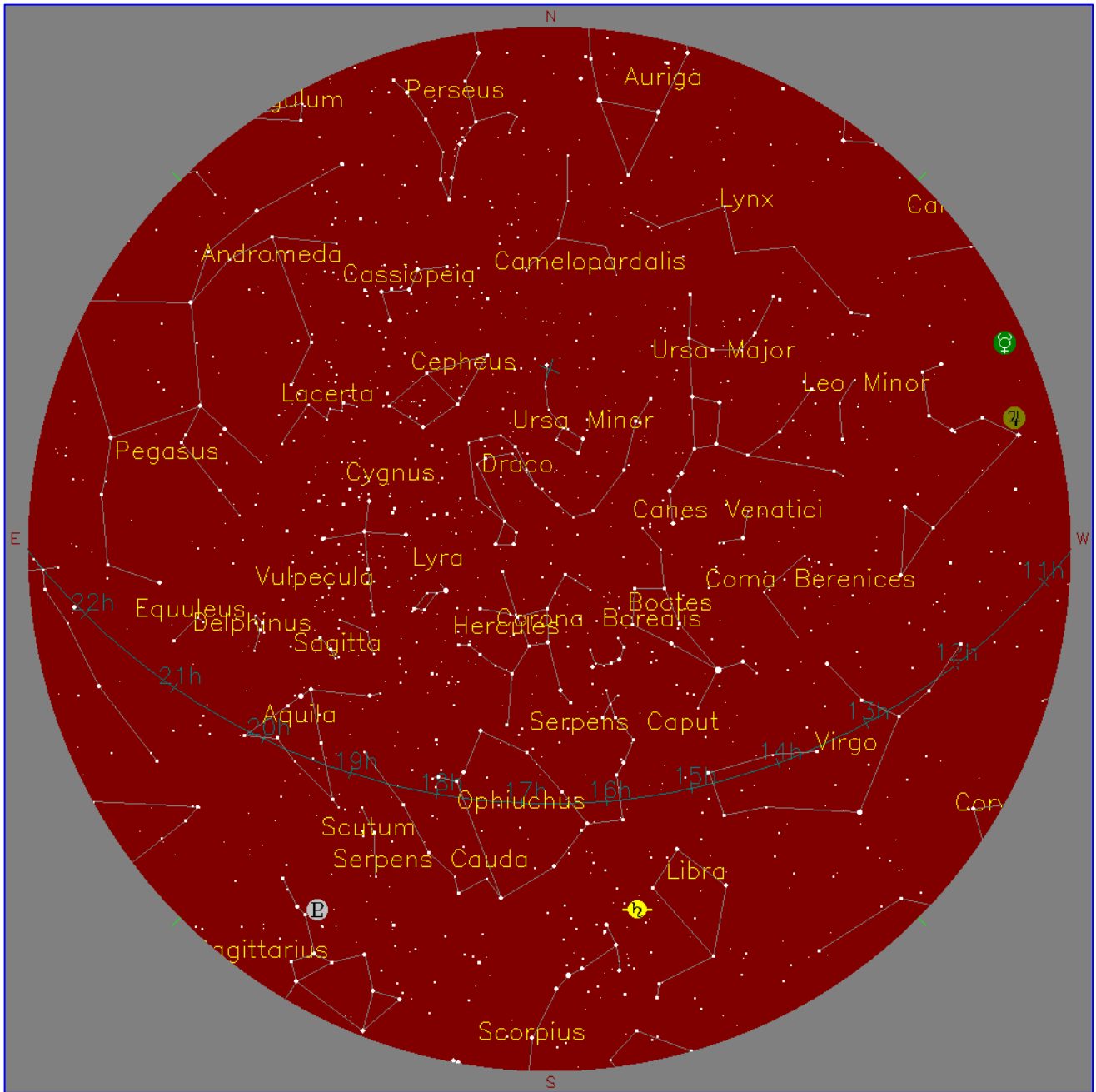
Full 31st
Full 29th









Last 7th August
Last 5th September

New 14th
New 13th

THE NIGHT SKY : MAP

1st August 2015 : 20.00hrs GMT- UTC / 21.00hrs BST



KEY	
 MERCURY	 SATURN
 VENUS	 URANUS
 MARS	 NEPTUNE
 JUPITER	 PLUTO



Astronomical Society of Haringey

Patron: *Sir Arthur C. Clarke, C.B.E., B.Sc., F.R.A.S., F.B.I.S.*

President : *Frederick W. Clarke, F.Ph.S.(Eng), F.B.I.S.*

Vice President : *Walter T. Baker*

ASH COMMITTEE MEMBERS : 2014 – 2015

CHAIRMAN : Jim Webb : email chairman@ashastro.co.uk [www.glservices.org]

SECRETARY: Charles Towler : email secretary@ashastro.co.uk

TREASURER : Kyriakos Voskou : email treasurer@ashastro.co.uk

MEMBERSHIP SECRETARY: Alister Innes : email memsec@ashastro.co.uk

EDITOR, P.R.O. and VICE-CHAIRMAN (and current WEBMASTER) : Mat Irvine
: email editor@ashastro.co.uk [www.smallspace.demon.co.uk]

GENERAL MEMBER : Mitchell Sandler

GENERAL MEMBER : Nicholas Lucas

GENERAL MEMBER AT LARGE : Gary Marriott

GENERAL INFORMATION : info@ashastro.co.uk

OBSERVING INFORMATION : observing@ashastro.co.uk



Astronomical Society of Haringey