Stargazey Pie!

A slice of Highlands astronomical life!

Tues 7th Feb 2012

INTRODUCTION

The February meeting was certainly one of a kind! Technical difficulties and a "talk-swap" left all in attendance in a sense of bewilderment as to what was going to happen next… Thankfully, the main talk, given by Michael Marett-Crosby, was one of the most enjoyable of recent times, and to cover the technical difficulties some volunteers were forced into place to talk at us to keep things going.

- **2011-12 Programme Update with Dates For Your Diary.** Arthur Milnes will give his talk, "Elements of Surprise" at the April meeting. How surprising…

- **Observing Sessions - JSL Observatory.**

Date	For Whom	Time	Supervisor
Sat. 25th Feb.	Members and guests only	20:00 – 23:00	Paul J
Fri. 16th Mar.	Public and members	20:00 – 23:00	Pauline
Sat 17th Mar.	Members and guests only	20:00 – 23:00	Pat W

Please check www.spacegazer.com before setting out. We now have Internet access and can also view the live telescope views from the Observing Station (warm room). So, if the cold is putting you off attending, come and try our facilities (toilet included).
Thanks to the generosity of a benefactor, we now have a Skywatcher 90mm Maksutov and EQ1 mount available for loan to members. If you have not used a telescope before (and have clean hands) this would be a great opportunity for you to try one out before committing to buying one. If you would like to borrow it for a while please contact Gerry or Paul.

- **Imagine that.** If you have an interesting image (photograph) relating to HAS activities, Pat Williams will happily use it in the printed programme. There is only space for one at a time though. Blackmail-worthy photo's are also of interest. Please let Pat know what you have.

- **Congratulations!** To Niamh and Paul, who were featured on page 79 of February's Astronomy Now magazine. Niamh was shown receiving her Bronze Messier certificate – and we all wish her well in her future stargazing.

Shooting Stars: Other Important Club News!

The Society's news and updates section started of with the regular Observatory Report, given by Paul Jenkins on behalf of Gerry Gaitens who sadly couldn't attend. Paul's report was full of

optimism and told of good viewing sessions, reasonably compliant weather, a fully cooperative Meade 14" telescope and general celestial observational Nirvana all round.

Mention was made of the 12" Dobsonian, sitting in the Observing Station. Addition of a new focuser has been discussed and steps have been taken to give this superbly performing manually operated light-bucket some TLC. It is hoped that it will then get a lot more use, and one of our Session Supervisors, James "Dobson" Hitchmough, is keen to bring the HASDobs to the forefront.

A final appeal from Paul was made to the members to actually make use of the facilities and equipment we have. Observing sessions are listed above and the supervisors would love to see you there!

The Outreach Day, which took place in January and was linked with the BBC's Stargazing Live series of programs, was a huge success, and served to boost membership to a very momentous level. Indeed, the club's 100th member was in attendance at the Feb meeting and we all gave a special welcome to Dr Steve Ryder and wish him exceptionally clear skies! Donald Boyd took some photographs of the Outreach Day event in the Eastgate shopping centre, and these may soon appear on our website.

James McTaggart took to the stage at this point to mention some of the highlights that will be coming to HAS in the next year. These include talks by our favourite Selenologist, Ken Kennedy, and a rather exciting sounding talk on "Runaway Rockets and Other Space Disasters" by John Davies in August. September will see us spellbound before the scientific revelations of Prof. Mark Sims, who will be reporting (hopefully) on the landing, mission goals and achievements of "Science Lab".

James also took the opportunity to suggest that if you would like to give a talk to the club, or felt that the opportunity to do so was not readily apparent, please feel free to contact himself or Michael for further information. Also, you if you would like to make a talk but feel that you couldn't manage a whole 40-60 minutes, there is provision for a series of shorter (10-minute or so) talks to be given.

Mention was also made of the forthcoming book, "25 Viewings that Changed History", to be published by Springer Books, and written by our own Michael Marett-Crosby! It is hoped this will be in bookshops this spring.

The Main Event:
'Naming Astronomical Objects' by Michael Marett-Crosby

Michael joined the Society in March 2009, becoming at that time its 99th member. When Maarten showed him Saturn through the telescope being used at the time, Michael's boyhood astronomical passion was re-ignited! Since then he has produced a very user-friendly leaflet to advertise HAS to the public, and has taken on (with James McTaggart) the production of the annual programme and the acquisition and organisation of speakers for the meetings.

We have been looking to the skies for a long time, trying to make sense of what we saw there. Humans are very good at constructing patterns out of seemingly random data, and we have done the very same thing with the stars, making them appear as shapes in the sky that represent Earthly objects, animals or people.

For example, Michael asked how many of us had viewed the "Stars of The Flock", or the "Herd of Antelope"? If you don't think you have, you'd probably be wrong. They are different names for the same thing – the star cluster we know as "The Pleiades"! Different cultures all giving different names to the same objects of interest.

As we progressed through history, towards the "Modern Age", the advent of telescopes and astronomical organisations would seem to make things simpler – but did they really? The telescopes simply revealed even more objects to us, all of which required names! For example, have you heard of the "Inverness Corona"? (You should have – it was mentioned in one of Pauline's recent talks…) It's a Cryovolcanic Complex on Miranda, moon of Uranus. Ok, it wasn't a telescope that revealed this feature, but a space probe, but that just reiterates the point that the more we venture out into space the more things there will be to give names to.

Closer to home, the good old Moon is a great example. The Moon has been depicted in art for thousands of years, and the features visible to observers will have been given names for much of that time. In art, the Moon has been shown as far back as Assyrian times in bas-reliefs.

With the invention of telescopes, maps soon followed. William Gilbert in around 1600, Thomas Harriot, Galileo and others all produced drawings of the Moon with different features marked and annotated. The most detailed of these came in 1611, with a beautiful version by Thomas Harriot. It was drawn on better quality paper and had significantly more detail than previous versions.

As for naming the actual features, this soon became a political function, with different astronomers proposing different names – usually those of their sponsors or ruling families – in the hope of ensuring their support and backing over the coming years. In 1647 Johannes Hevelius produced his Selenographia and dedicated it to his king, Wladyslaw IV. Many of the features were named after Earthly ones of similar appearance. Many famous dead people were also immortalised (temporarily at least!) in his maps.

And so it went on, with new maps being produced by different astronomers with different political affiliations through the following decades. Finally, from the 20th century until the present day, the naming of lunar features is governed by the International Astronomical Union, who have developed a set of "rules" for naming lunar features. These have had slight amendments and additions applied over the decades, but for the most part the following apply:

Craters: Craters are generally named after deceased scientists, scholars, artists and explorers who have made outstanding or fundamental contributions to their field. Additionally, craters in or around Mare Moscoviense are named after deceased Russian cosmonauts and craters in and around Apollo crater are named after deceased American astronauts (see Space accidents and incidents). This convention may be extended if other space-faring countries suffer fatalities in spaceflight.

Lacūs, Maria, Paludes, Sinūs: These features are assigned names which are Latin terms describing weather and other abstract concepts.

Montes: Montes are named after terrestrial mountain ranges or nearby craters.

Rupēs: Rupēs are named after nearby mountain ranges (see above).

Valles: Valles are named after nearby features.

Others: Features that don't fall into any of the above categories are named after nearby craters.

So that more or less covers our closest celestial neighbour, but what about those other distant dots – the stars? Well, that gets a lot more complicated.

Various catalogues of stars have been produced through the ages, starting in 1603 with Johann Bayer's Uranometria of 1603. This included the 48 Ptolemaic constellations as well as 12 more southern ones that Ptolomy would not have known about. Bayer's designations included Greek letters and the genitive of the constellation's name. For example, Alpha Orionis, Delta Cygni, etc.

Generally the alpha star would be the brightest in the constellation, Beta the second brightest, and so on, but not always. Other star mappers decided to work the order of stars from east to west through the constellation. And of course, as more stars were observed with the arrival of telescopes, the designation systems had to be changed to allow the naming of these stars. So the famous "double double" in Lyra has components which are known as epsilon Lyrae 1 and epsilon Lyrae 2, etc.

Finally, there are the space telescope star catalogues, like Hipparcos, which revealed over a hundred thousand stars, all needing to be charted and named! So, the star known as Procyon in Canes Minor is known as alpha canis minoris using the Bayer method, and was charted in the Hipparcos catalogue as HIP37279. In the Henry Draper catalogue it's listed as HD61421 and in the Luyten Half-Second catalogue as LHS233.

Thankfully, when we need to look up a star designation now, the catalogues are all easily available online, in our telescope mount's computerised innards, or on free planetarium software like Stellarium. We do not have to learn as many names, though it helps I think to have a basic knowledge of the brightest stars in a constellation. While searching out, for example, Alnitak, Alnilam and Mintaka in the night sky over the next few months, it might be worth reflecting on how these beacons got their names – and wondering what their numbers are in the latest generation of star catalogue.

I'm sure that Michael now has them all memorised, and we thank him for sharing some of the reasoning behind the various naming conventions that we have used or still use to this day.

Highland Skies

A Highland Skies was not prepared in time for the February meeting, but in writing this up can I just point out a few objects of interest that are coming to a clear sky near you even as you read this!

First off, Jupiter has been a hugely rewarding planet to observe the last few months – and it's not too late to take advantage of its brightness and size. It is getting lower in the southwest earlier in the evening but is still at a respectable enough height for observing fine detail even with telescopes of moderate aperture. Swing a 90mm refractor over to it and you will not leave disappointed (assuming seeing conditions cooperate).

Orion is well up and begging to be worshipped – I mean observed – by anyone with any form of optical aid available to them. Even binoculars can show the great Orion nebula well, and will reveal hints of other nebulous regions throughout the constellation. Do you fancy a non-telescopic challenge? Well, if you have a UHC (Ultra High Contrast) filter for screwing into eyepieces or diagonals, try going to a VERY dark site and stand facing the constellation. View it for a while with nothing but your eyes. Then, hold up the UHC filter to your eye(s) and see what difference it makes. It will certainly be subtle, but the result may be the revelation of long subtle curves and bubbles of cloudy nebulous material spread throughout almost the entire constellation. You may not be able to see it, but on the other hand you may – and you won't even have to set up a telescope.

I'll tell you if I managed it next month…

Moving further Eastwards you should be able to see bright ruddy Mars below the hindquarters of Leo. Mars will be at opposition on 3rd March and will be at its largest apparent diameter for two years at 13.0 arcseconds. Mars is a challenging target but good optics, a steady mount and patience can reveal some very subtle details, including polar caps, dusky land features, dust storms and atmospheric clouds.

The magnificent open clusters of Auriga are now almost overhead, well up in the darkest and steadiest region of the night sky. It will be a simple joy to sweep through them with a medium

power wide field eyepiece in a portable telescope and enjoy the sprinkling of heavenly diamonds across the black velvet of space.

In short, enjoy the February skies. If the weather behaves, make the effort to go out and observe. There are so many treasures out there at the moment it would be rude to ignore them!

Next Time… The next meeting will take place on Tues 6th March and will feature a talk by SIGMA member Bill Leslie, on "Finding The Age of The Universe". The meeting will start at 19:30 (technology permitting) with the Youngstars junior group meeting beforehand at 19:00, courtesy of Triona and Pauline.

There will also be the usual highlights of club life, including an extended teabreak (biscuits included) and a possible breakout group aimed at debunking astronomical urban myths using "classic" refractors.

Until then, happy viewing and clear skies,

Antony McEwan