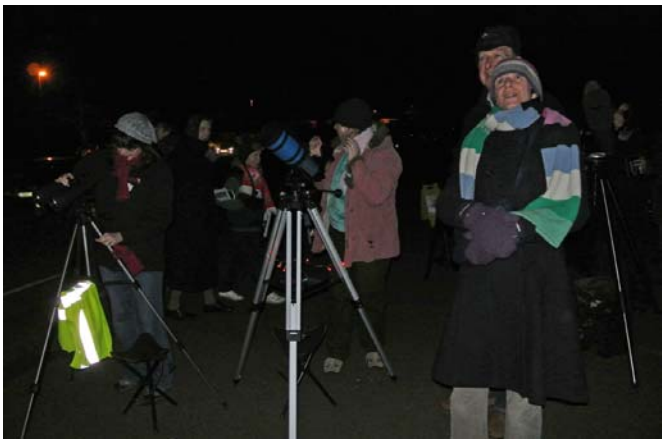
# Sky Notes: 2012 April & May

*by Callum Potter*



**A *Stargazing Live* event held in Cheltenham by the Cotswold Astronomical Society. *Photo by Callum Potter.***

I wonder what you thought about *Stargazing Live* this year. I thought the programmes were better than last year, but it was a pity there was not a bit more observational astronomy, and they were poorly timed in the lunar cycle; did the BBC check this in advance of scheduling?

Of course the TV programmes are just part of the project: an equal part was all the observing sessions arranged by local societies and groups up and down the country. It was good to hear that the BAA was involved in an event at Regent's Park in London, in association with the Baker Street Irregular Astronomers (see page 67) – just a pity the weather did not cooperate that night. I am sure that many members will have helped out at their local events. My local society (Cotswold AS) held four events; two lunchtime solar observing sessions and two evening events. Sadly the weather was not the best – we did get fleeting views of the Sun through gaps in the cloud, and although one of our evening events was clouded out, we did have reasonable skies for the other evening. A large crowd gathered to view the Moon, Venus, Jupiter and and a smattering of deep sky objects.

I manned a small dobsonian reflector for that night, and was pleased that so many seemed to enjoy the view through the 'scope. Some people came back time after time to look at the Moon, never tiring of the view. And some visitors just wanted to look at stars; strange I thought at first, a magnified star is still just a point of light, but I got to thinking that perhaps we don't look at stars enough (unless you are a variable star observer of course!). Maybe after years of observing, looking for more esoteric objects, we forget the simple things – bright and not so bright stars, their colours, the patterns they make on the sky. Next time you are out observing, why not spend fifteen minutes or so, just *looking* at stars?

## Sun

On to our nearest star. Although there have not been a great number of sunspots to observe recently, the Sun continues to be an active place. There have been a few aurorae visible this year already; though not strong enough disturbances to be seen from southern UK, observers in northern parts have been luckier. Not all the aurorae seen were well forecast, and some forecast were not as strong as predicted, like terrestrial weather forecasts. I think it will be some time before we have a good enough understanding to predict aurorae with any certainty.

## Moon

The Moon is full on April 6 and May 6, and new on April 21 and May 20. On April 25 there is an occultation of the bright star Zeta Tauri. At Greenwich disappearance will be around 20:30 UT, and the star will reappear about 22 minutes later – the Moon will be only four days old, so it will be a thin crescent, with the star disappearing on the dark limb, and reappearing on the bright.

## Planets

**Mercury** is not observable in April or May, but **Venus** will remain prominent in the early evening. It is heading towards the Sun with conjunction (and transit) in June, so by the end of May will be difficult to observe.

**Mars** still hangs around in Leo but is receding, so its apparent diameter will decrease dramatically over these months.

**Jupiter** is also heading sunward, so will become difficult to observe in April and impossible in May when it reaches solar conjunction. But don't worry, it will be back soon in our morning sky.

**Saturn** is the best of the gas giants, reaching opposition on April 16, and well placed for observation in April and May in Virgo. Saturn is not varying much in apparent diameter; it will be around 44" across the rings in both months. It's always entertaining to track down the many moons of Saturn. Titan, the largest, is usually easy to spot at 8th magnitude, followed by 10th magnitude Rhea, Tethys, and Dione, and 11th magnitude Iapetus. Iapetus orbits much further out than the other moons, so can be tricky to identify. Things become more challenging with 12th magnitude Enceladus, 13th magnitude Mimas, and 14th magnitude Hyperion.

**Mars imaged by Peter Edwards on 2012 March 1.**

**Uranus** and **Neptune** are not really available, but there won't be long to wait before they come back into view.

## Meteors

In April we have one of the annual reliable meteor showers, the Lyrids. The maximum on April 22 is very favourable with the Moon being new, and it will be worth observing on the nights around maximum also. Early morning will be the best time, an hour or two before astronomical twilight. The Lyrids are not the most prolific of showers, with an anticipated ZHR of 20, though there have been occasional years with bursts of activity. This unpredictability means that we can't really be sure what will happen this year – we just need to get out and observe.

## Comets

Comet 2009/P1 Garradd will still be the brightest comet visible in April, though it is fading. In April it rapidly moves from Ursa Major, into Lynx. It will probably be almost impossible to view from the UK come May, when it will be passing through Cancer.

Most other visible comets will be somewhat fainter, and difficult visually, but should be within easy reach of most imagers. One of the fainter comets, 29P/Schwassmann–Wachmann, could be interesting to monitor as it has a history of outbursts; it will be in Corvus and then Virgo these months. If you want to track down these and other comets, you can find a list and details of the brighter ones on the Comet Section website **http://www.ast.cam.ac.uk/~jds/**

## Deep sky

As we watch the change in the seasons, each month a new constellation appearing, with some favourite objects we have not seen for several months, it would be easy to concentrate on the ever-changing panoply. Spring is often thought of as the 'galaxy season' as Coma Berenices and Virgo swing into view. However, I started to count the galaxies in Ursa Major, and quickly lost count (no doubt a wizard with catalogues or *Aladin/Simbad/VizieR* could quickly come up with the number of NGCs), so I thought for this month I would feature a range of galaxies for all tastes that can be well viewed in April and May in Ursa Major – which will be high in the sky these months.

Amongst the 'easier' targets are the galaxies from the Messier Catalogue: M81 & M82, M101 and M109. M81 is the brightest of these, and if you can find M81 you will almost certainly be able to view nearby M82, and with a wide-field eyepiece you may be able to get both in the same field of view. M109, a barred spiral, is the faintest of these Messiers at mag 9.8, but is an easy hop from gamma UMa (Phecda), though you might find the glare of the star distracting.

M101, the Pinwheel Galaxy, should not be hard to see, it is at mag 7.7. But it is a very extended object so to see the galaxy well a dark site is recommended. Many of you will have looked for M101 last year when supernova 2011fe appeared in September. There have been a number of supernovae discovered in M101 – about four in the last 100 years – so it is clearly worthwhile looking for 'new' stars there.

Whilst looking at these Messiers there are several other interesting galaxies to search out in their vicinities. Near to M81 is the mag 9.9 galaxy NGC 3077, actually a companion to M81. Visually it appears as an elliptical, but images may reveal it to be a peculiar galaxy, like M82 being disrupted by the influence of M81. There are also another couple of companions nearby – NGC 2976 (mag 10.8) and the somewhat fainter NGC 2959 (mag 13.6). There may be 20 or more galaxies in the M81 group; if you are looking for a challenge, then try to track them all down.

**M81 and M82 imaged by Peter Carson with a Televue 100mm APO refractor at its 540mm prime focus.**

Near to M109 is the barred spiral NGC 3953. Take care not to confuse this with M109 – NGC 3953 will appear slightly brighter.

M101 is also the brightest of another galaxy group. There are at least nine galaxies in the M101 Group. Search out mag 10.85 spiral NGC 5474 and mag 11.49 NGC 5585. There are a bunch of other fainter galaxies around M101, but these are background galaxies rather than group members. Some of the group members are quite far across the sky – M51 and M63 in Canes Venatici are also thought to be members of the M101 group.

For a final big challenge, if you have a large scope and dark skies you can try to identify components of the spiral arms that have their own NGC numbers. If you want to pursue these you will probably need to make your own charts utilising the NGC catalogue.

This is just a small selection of the delights and challenges in the Great Bear; you could spend many years just observing this constellation, and finding new things to look at there. I hope over the next couple of months you will find a little time to view at least some of them.

As always, if you do make any deep sky observations – visual or images – please do send these in to the Deep Sky Section director Stewart Moore.

**Callum Potter**

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