

Sky Notes: 2012 December & 2013 January

by Callum Potter

In January the BBC will hold another series of *Stargazing Live*, with the television programmes currently scheduled for January 8 to 10. It seems to me that running around New Moon is rather poor timing, as the Moon is a favourite target for the general public at any viewing evening. I have had people stare at the Moon for ages (holding up the queue), returning many times to look again, and people said that the only reason for coming was to view the Moon. Of course perhaps it's deliberate – if star parties were held on the nights the TV programmes are on, then there will be no-one watching.

My local society will be running some public events around first quarter, which allows people to get a good view of the Moon, and the brighter deep sky objects will not be too drowned out. Jupiter should also be well placed, so all we need for some successful star parties is cooperative weather. *Stargazing Live* is not just about big public events, though – members might like to just invite some of their neighbours to see some stellar sights.

The Moon is new on December 13 and January 11, and full on December 28 and January 27.

The winter solstice occurs on December 21, when the Sun will be at its lowest declination of the year.

The planets

At the beginning of December **Mercury** continues the fine apparition in the morning sky that it started at the end of November. It will be at its highest altitude on December 1, but will be visible for several days after this as well.

Venus is nearby, but by the end of December will be below the horizon, and unobservable.

Jupiter continues to be the best placed planet. It is at opposition on December 3, and will continue to be prominent in the constellation Taurus. At opposition it will have an apparent di-

ameter of around 48", and by the end of January this will only have reduced to 43" or so.

Saturn continues to be a morning object, and although it rises earlier each night, even by the end of January it will still be rising at around 01:00. It also has fairly low declination (around -13°), so will never achieve a very great altitude from the UK. It is always entertaining to try to spot the moons of Saturn. Titan is fairly easy at mag 9, and Rhea at mag 10.5. Then they start to become more tricky, with Tethys at mag 11, Dione mag 11.1, Mimas at nearly mag 14, and faint Hyperion at mag 15. But still well worth getting up for.

On December 10 there will be a nice early morning alignment of Mercury, Venus, Saturn and the crescent Moon, which may make for a good photo opportunity.

Ceres and **Vesta** are also at opposition in December and should be

fairly easy to pick out, though you may need to watch over a couple of nights to see their movement. A good star chart showing stars to magnitude 7 or fainter will help you spot the interlopers. I started out writing this describing them as minor planets – but Ceres was of course reclassified in 2006 as a dwarf planet, though many still refer to it as an asteroid, which seems to be an interchangeable term. Ceres does seem to be fairly round, with a mantle of ice and a thin dusty crust. Vesta, recently visited by the NASA spacecraft *Dawn*, conforms much more to our traditional picture of an asteroid – an irregularly shaped rocky, cratered body.

Both Ceres and Vesta are in Taurus, and although Vesta is smaller it will shine at about mag 6.3 with Ceres a little fainter at 6.8.

Members in northern Scotland may be able to witness a rare asteroidal occultation of a naked-eye star. On December 27 at 19:24 UT the asteroid (1107) Lictoria will occult one of the Hyades stars, theta 1, or HIP 20885. The star should be quite easy to find, being 4th magnitude and lying on the southern arm of the V, about half way between Aldebaran and gamma Tau. There is a narrow band where an occultation may be seen, centered on Inverness. But it may be possible to see it from as far south as Aberdeen or up to Portmahomack to the north. Members further south or north should still observe as there is some uncertainty about the precise path. Local circumstances will vary, so it would be best to observe the star from maybe around 19:15 onwards to make sure you don't miss it.

Meteor showers

December sees a favourable maximum of the Geminids on Dec 13, with the Moon just past new. Geminids tend to be slow with many bright



Mercury, Venus, Saturn and the Moon in the early morning sky on 2012 Dec 10 (Stellarium).

meteors, so the shower is good for wide field photography. The peak of the Quadrantids on January 3 is also fairly favourable, although the Moon is 21 days old at the time. This shower is still rather under-observed, no doubt due to the proximity of the New Year in addition to the January weather.

For details of both of these showers, and how to make and report your meteor observations, see the Meteor Section website www.britastro.org/meteor.

Comets

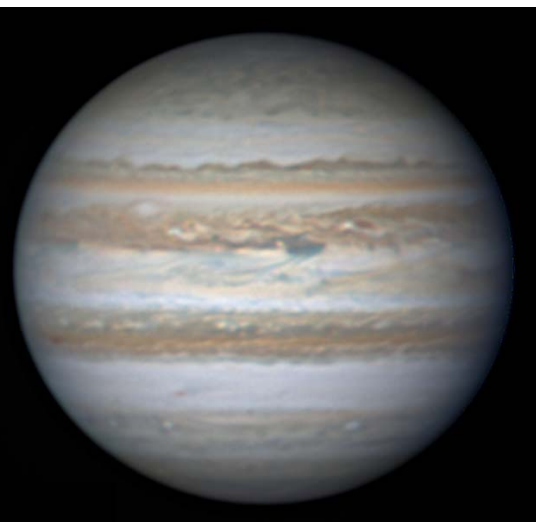
Comet 168P Hergenrother has been in outburst over the past couple of months, and although apparently now fading it may be well worth further monitoring. It will be available in the evening in December and January, cruising through the northern part of Andromeda.

Another couple of comets to look out for are C/2012 A2 LINEAR and C/2012 K5 LINEAR, which will probably be the brightest of the fainter comets. We need to wait for March next year for the prospect of a bright comet (C/2011

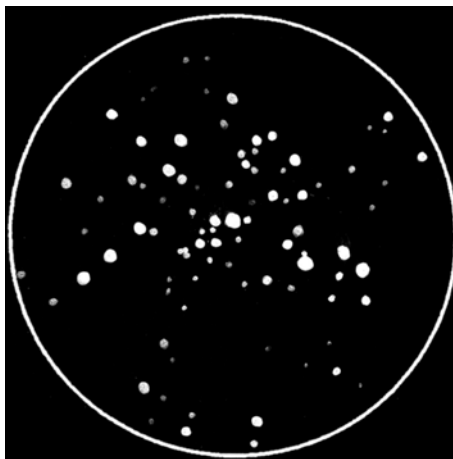
As mentioned in the last *Journal*, I am stepping down as your regular *Sky Notes* writer and this will be my last column. I took on the *Sky Notes* following Neil Bone's untimely passing, and I hope I managed to continue his traditions in the column, yet still give my own perspective.

We are pleased to welcome Brian Mills who has volunteered to take on the *Sky Notes*, and will be starting with the 2013 February issue. However, don't think that you will be getting rid of me that easily - I will be returning with a *Deep Sky* column in the future.

Callum Potter



Jupiter on 2012 October 15 imaged by David Arditti with a C-14 355mm SCT



Drawing of open cluster M93 in Puppis by Dale Holt using a 153mm refractor and Watec 120N video camera.

L4 PANSTARRS), and until November/December for the interesting and newly discovered 2012 S1 (ISON). For more information on 2013's comets, see Jonathan Shanklin's article on page 327.

Deep sky

During these winter months there are so many old favourites, that even getting round these can mean that you won't find time to look for new things. But we need to keep fresh, and try new challenges.

It is unfortunate that the constellation Puppis is at such low declination, because it contains many lovely objects. January is a good time to observe these as the constellation transits around midnight. Puppis is a very large constellation, and we can only see its tip from the UK. It used to be part of the now non-official constellation Argo Navis – named after the Argo, the ship of Jason and the Argonauts. Argo Navis was divided into three, with Puppis being the poop deck of the ship. The other parts wander further south, forming the modern constellations Carina and Vela (the Hull and Sails of the Argo).

There are three Messier objects in Puppis, all of them open clusters. M47 is the most northerly, and a short distance away (just over a degree) is M46. M46 is slightly remarkable because apparently embedded in the cluster is a planetary nebula, NGC 2438. However, measurements suggest that the planetary is not physically located within the open cluster – it is just a line of sight effect. NGC 2438 is fairly large, with a ring just over 1' in extent. An OIII filter might help it 'pop-out'. 9° south of M46 is our third Messier, M93 – a triangular collection of about 80 stars, several of which are bright. To some observers it resembles a starfish.

Between M46 and M93, and about 3½° south of M46 is the planetary nebula NGC 2440, which has a more lobed or elliptical appearance, about 32" long. It should be locatable with a small telescope, and an OIII filter will help, but a larger scope will make things easier. Some observers note a blue-green colour.

There is a large number of open clusters in Puppis in the NGC catalogue – good star charts will show a large number of targets, and finding many of these will make a challenging project.

Slightly south of M93 we find NGC 2467. This is a fairly large emission nebula of about 16" extent, and fairly bright at mag 9. The difficulty with this object will be the low altitude.

Puppis is not well blessed with galaxies, and there is only really one available to a northern observer. NGC 2525 is a difficult mag 11, 3' barred spiral, relatively face on, but lying in the northern part of the constellation towards Monoceros, so having the benefit of some altitude. There seem to be few observations of this galaxy, so visual observations and images would be very welcome.

Callum Potter

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