

SPACEWATCH

the newsletter of the Abingdon Astronomical Society

9th May 2005

Annual General Meeting and Astronomy Quiz

I've just come back from a two-week trip to New Zealand where I saw for myself what the night sky looks like when there is no light pollution or air pollution. Imagine walking out of your front door, looking up and seeing, not a faint glow of a Milky Way, but a bright complex-structured path of stars arching high overhead from one horizon to another. There was the Coal Sack, a dark nebulous region, and there were countless other fuzzy blobs, each of which revealed itself in binoculars to be a cluster of stars. There was the Large Magellanic Cloud, a companion galaxy of ours, and there was Alpha Centauri, the next closest star to us after the Sun, shining brightly next to the unmistakable Southern Cross. Nearby was Omega Centauri – looking like a faint blurry star this revealed itself in binoculars to be a large globular cluster – the most spectacular in the whole sky.

All that was just seconds after leaving a brightly lit room. Imagine how much more I could see once my eyes became dark-adapted. It made me wonder why anyone tries to do astronomy in such light-polluted skies as we have here in Oxfordshire. And I had thought the sky at the Kielder star camp was good...

THE NIGHT SKY THIS MONTH

by Bob Dryden

The nights are getting considerably shorter now but if you stay up long enough for it to get dark, the two best planets are now on view in the evening sky.

The Planets:

Saturn is low in the west, still in Gemini. You should look at this one first as it is now setting earlier and earlier and this is probably the last month you will manage a decent view before the planet sinks towards the Sun. The rings are still wide open at -23 degrees so any small telescope will give you excellent views. On May 15th and 16th, Saturn is very close to NGC 2420 a small open cluster. They will both be in the same field of view of a low power eyepiece which should make for an interesting sight.

The other major planet now on view is **Jupiter**. In the constellation Virgo, Jupiter is the very bright 'star' low in the south. It is hard to miss as it is so bright. A pair of binoculars will show you the moons of Jupiter, while a small telescope reveals some of the cloud bands on the

planets disc. There is always something to look at with Jupiter, whether it is the constantly changing positions of the moons, or the varying cloud patterns, so make the most of any clear evenings. On May 19th, a 10-day-old Moon will be less than a degree south of Jupiter which should be good in binoculars.

Mars is still in the morning sky, passing through Aquarius. It still remains fairly faint at +0.3 mag which, combined with the fact it remains at a low altitude, makes it a very undramatic sight at the moment. Even so, by the middle of June, Mars is 25 degrees above the horizon at dawn. If you like a challenge, on the morning of May 15th, Mars is just one degree from Uranus and both should be easily visible in binoculars.

Venus is now in the evening sky, very bright, but still very low. It is moving slowly away from the Sun, increasing its elongation from 10 to 18 degrees this period. At magnitude -3.8 it is easy to find in binoculars if you look early enough - it sets less than an hour after the Sun.

Comets:

Apart from the planets, there is not much else of special interest this time. There are three comets brighter than 10th magnitude, one is in the morning sky, one low in the south, and one high overhead but fading. C/2004 Q2 Machholz is still with us, high overhead crossing from Ursa Major into Canes Venatici. It will probably be down to 10th mag by the middle of June so you will need a telescope to see it. Comet 9P/Tempel is low in the south in Virgo. This one is brightening though, but a telescope will still be needed as it reaches mag 9.5 by June. The third comet on view is 21P/Giacobini-Zinner which crosses Pegasus, Pisces and Aries. It brightens a whole magnitude to 9.5 by mid June which means it should be fairly easy to see, but only if you make a special effort to be awake at dawn.

Minor Planets:

One asteroid, 1 Ceres, is bright enough to be easily seen. It is past opposition now and fading from 7th mag to 7.6 mag as it crosses Libra. Again, binoculars are all you need to see it, as long as you have a finder chart to know where to look.

MOON PHASES:

Last Qtr: 1st May; New: 8th May; First Qtr: 16th May; Full: 23rd May; Last Qtr: 30th May; New: 6th June.

THE SOUTHERN SKIES

by Deborah Hambly in New Zealand

Happy Beltane to readers who can appreciate everything coming into blossom. It doesn't feel like winter yet as it is about 20-25 degrees today with glorious sunshine, but there are some leaves starting to fall so I'm sure the impending winter will sink in soon! None the less, winter is the best time for astronomers, so I'm hoping to take advantage of having to go through two winters in a row!

As the telescope I ordered from the USA has only partly arrived, I decided I needed to make the best use of my time and see what it was possible to see with binoculars. As I have preached, but not necessarily practiced prior to coming to New Zealand, binoculars are really the best way to learn one's way around the night sky. I found a brilliant website <http://www.astromax.com/aaaa/> which I highly recommend for anyone travelling south which is produced by the American Association of Amateur Astronomers (a good one to remember for Scattegories). It has a section highlighting the top 70 objects which are observable with binoculars (/aa02901.htm). Once you have found 50 of the objects you can write to the Association and receive a certificate.

I was feeling pretty pleased with myself and well on my way to obtaining the sought-after award, having located about 15 or so objects over a two week period when I looked at the site in slightly more detail. It turns out that the site is designed for those travelling to the Southern Hemisphere who should be able to familiarise themselves with the skies and locate 50 out of 70 objects in the couple of evenings they may have available while on a business trip or family holiday and taking into account that all of the objects are not viewable at all times of the year. Thank goodness I'm here for longer and there is no maximum time period for observing the 50 objects!



A view of Omega Centauri (NGC5139), the most spectacular globular cluster in the entire sky, easily visible in binoculars, to the left of the Southern Cross.

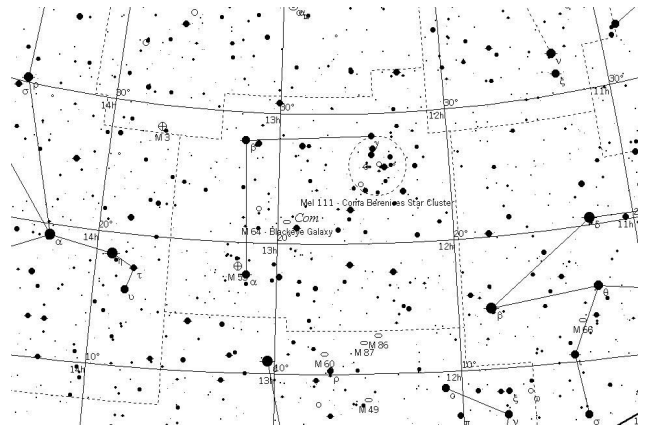
THIS MONTH'S DEEP SKY OBJECT

M64 – The Black Eye Galaxy

by Paul Warren

This month's DSO has obviously been involved in a bit of a scrap and the results of the scrap show too! The DSO in question is the galaxy M64, often referred to as the Black Eye galaxy!

M64 is in Coma Berenices. It is a nice bright galaxy, glowing at magnitude 8.6, and is fairly straightforward to find. Start off by locating α Com in your finderscope. Now move up and to the right and you run into the (comparatively speaking) bright star 35 Com. Now move up and to the left by about a degree and you run right into M64.



On a good night you should be able to see the dark dust band which gives the galaxy its nickname. I have seen this with a 5 inch scope, and I think that it should be visible with a 4 inch scope under the right conditions (i.e. a good dark sky). The dust band looks like a comma (",") to me. As this galaxy is quite bright, so it can take magnification reasonably well, and higher magnification can help to increase the contrast and thus increase the visibility of the "black eye" of M64.

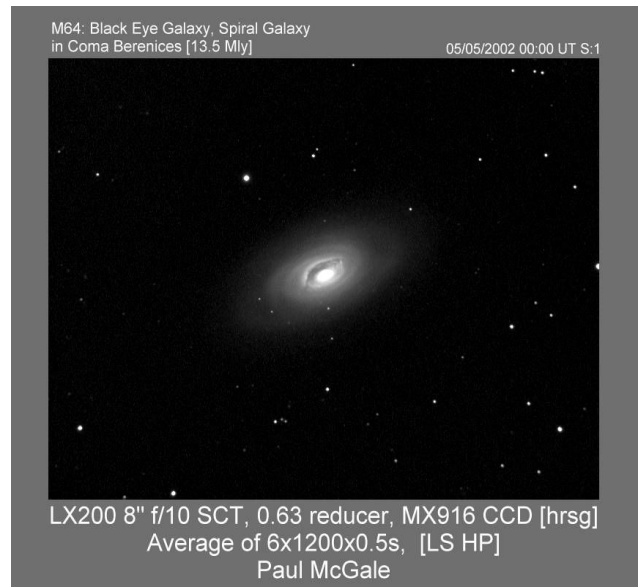


Photo courtesy of Paul McGale

M64 is believed to be about 25 million light years away and this would make it about 50,000 light years across. Despite its proximity to the Virgo cluster of galaxies, M64 is not believed to be a member of the cluster. M64 is a spiral galaxy which, while not obvious to the eye through a telescope, shows up quite nicely in images of it.

This is a good time of year to observe this galaxy, but because of the lengthening days, the observing season for it tends to be cut short. So the lesson here is not to miss this galaxy when you have a chance to see it.

SOLAR ASTRONOMY

If you're having trouble with clouds or light pollution at night, why not try your hand at solar astronomy? You only need a short gap in the clouds during the day. You can either buy a solar filter to go over the end of your telescope (never use a filter at the eyepiece end of your 'scope as the heat may crack it), or you can project an image of the Sun onto a sheet of card (perhaps inside a cardboard box or a bucket to shade daylight from the image).

You will be able to watch the progress of sunspots, darker cooler parts of the Sun's surface as they pass across the face of the Sun due to its roughly 25 day rotation period. Sunspots are caused by the complex magnetic field of the Sun, and the number of sunspots varies through the Sun's 11-year magnetic field cycle (actually a 22-year cycle of field reversal). We are approaching a minimum in the cycle next year, but this hasn't stopped this large sunspot appearing on the Sun. It is several times larger than the Earth and has been visible for over a week, though it is now heading off to the other side of the Sun. Watch as it becomes foreshortened at the limb. Will it last long enough to reappear on the other limb in two week's time? You won't know unless you keep looking.

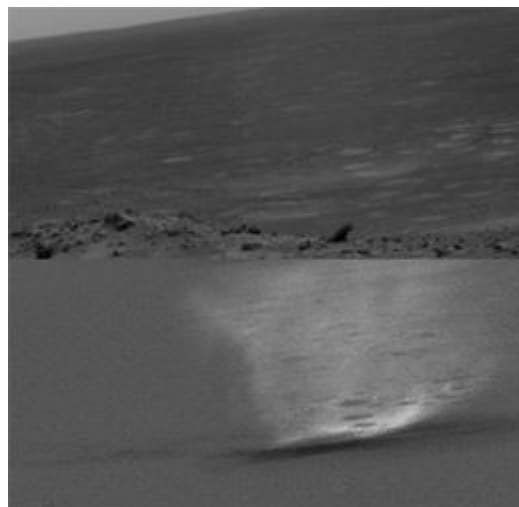


Photo courtesy of SOHO, 4th May, 2005

MEANWHILE, BACK ON MARS...

The Mars Exploration Rover Spirit, in Gusev Crater, is teaching us a little about wind conditions on the red planet's surface.

The rover has taken several photographs of dust devils in the past few weeks. In early March, one even passed over the rover and cleaned off its solar panels, boosting the available power supply by about 50%. On April 15th and April 18th, the rover imaged two different dust devils.



It seems it is dust devil season in Gusev Crater, and Spirit is seeing them quite frequently. Images like this will help scientists build better models of the way the Martian winds behave.

Meanwhile, on the other side of the planet, Opportunity is in a bit of trouble. It is currently stationary with all six wheels buried deep in sand. While NASA say there is no immediate cause for concern, members of the rover team are trying to work out the best method of escape. It seems Opportunity may be staying put for several days, or even weeks.

FURTHER DISCUSSION

The society's e-mailing list is used by members to comment on all things astronomical, as well as other related and not-so-related subjects. The list is also used to publicise "first-clear-night" observing evenings and for alerting members to hot observing news.

To view the messages on the web go to:

<http://www.smartgroups.com/groups/abastro> .

To subscribe to the list either go to this web page and click on "Join the Group" or send an email to abastro-subscribe@smartgroups.com . You will then receive all e-mails sent to the list. To post e-mails on the list: send an email to abastro@smartgroups.com . To unsubscribe: send an email to abastro-unsubscribe@smartgroups.com

Don't forget the Society's web site:

www.abingdonastro.org.uk

Our webmaster, Andrew Ramsey, is always on the look-out for members' photographs to put on there. Don't forget you can read back copies of SpaceWatch on the web site too.

DATES FOR YOUR DIARY

16th May 8pm. Beginners' Meeting in the Perry Room.

6th June 8pm. Another Beginners' Meeting in the Perry Room.

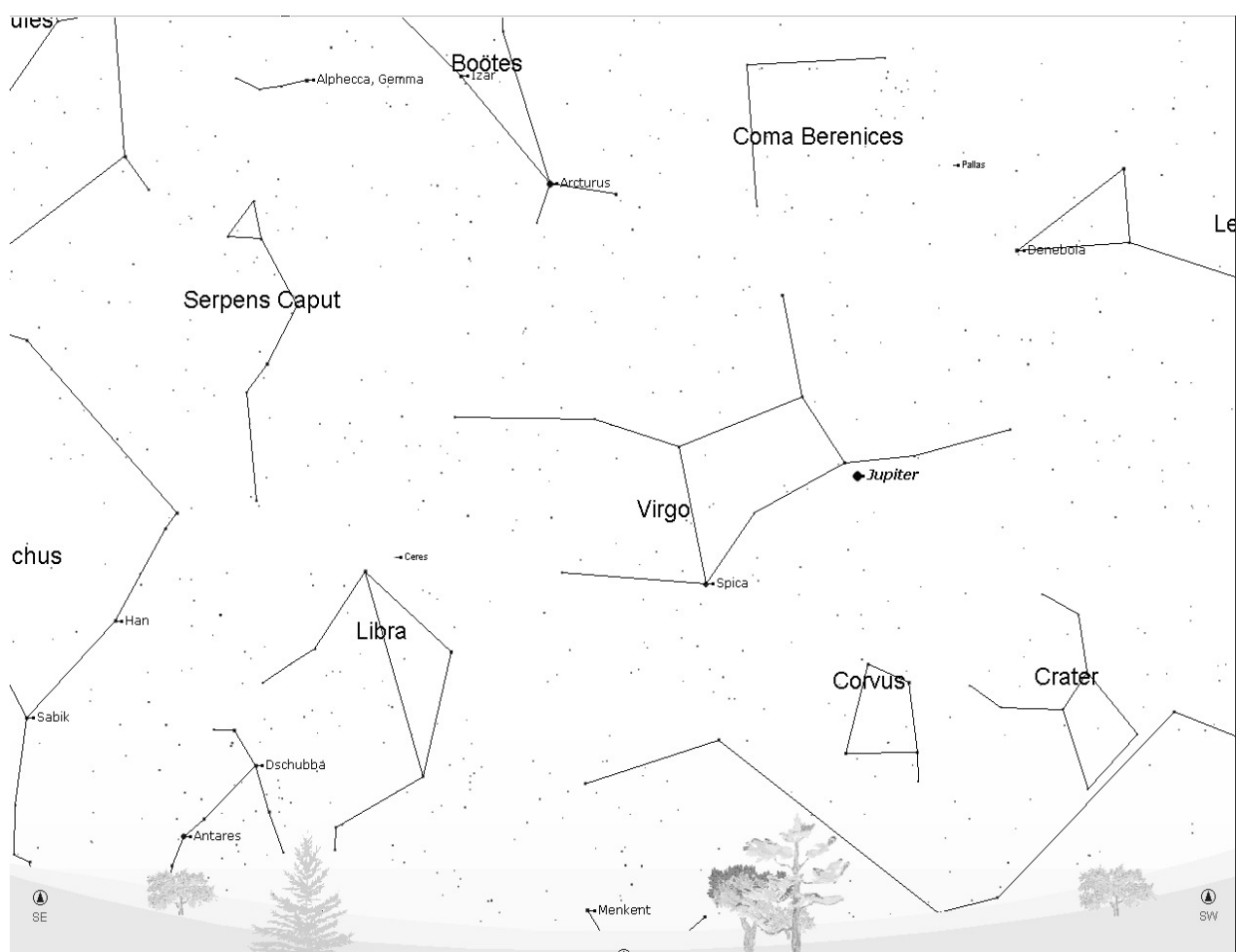
13th June 8pm. Speaker Meeting: "X-rays mark the spot" by Darren Baskill (University of Leicester).

There are no more observing evenings this season.

The editor of "SpaceWatch" is Andrew Ramsey, who would very much appreciate your help and contributions. Please send any news, observations, photos, etc. to:
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E-mail: AbAstro@ATRamsey.com Phone: 01865 245339

STAR CHART

View looking south at 11.30pm next Saturday (14th May).



Jupiter still shines brightly in the south in Virgo. Nearby is red Spica. Try to find the largest minor planet, Ceres, in Libra, and watch it move from night to night (clouds permitting). Note Coma Berenices – why not look at this month's deep space object.