

Society News

Garlic Festival

Last weekend saw the annual Newchurch Garlic Festival. Again, VAS were marshalling the event and had a small stand at the show. As well as giving advice and letting stacks of people know there was an observatory here on the Island(!) we held a raffle for a SkyWatcher telescope and some astronomy books... and three winners were:

236	1st	Steve Chesters (Ryde)
99	2nd	D. Morton (?)
115	3rd	Mr Storey (Wootton)
191	4th	Mr McCafkrey (Derby)

Congratulations to the winners and thanks to all those who took part. We had a really good couple of days and there was certainly a lot of interest.



Steve and his wife with their new telescope

Thanks to members who gave up their time to help, your efforts were very much appreciated. We hope to have raised about £800-900.

Brian Curd
Observatory Director

VAS Website: www.wightastronomy.org

Submissions or letters to New Zenith are always welcome and should be sent to:

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Tel: 01983 864303 or email: editor@wightastronomy.org

Material for the next issue by the 6th of the month please.

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The Vectis Astronomical Society and the Editor of the New Zenith accept no responsibility for advice, information or opinion expressed by contributors.

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Observatory Diary

Monday, 19.30hrs	Members Only. Telescope and night sky training. Contact Barry Bates 01983 872979
Thursday, 19.30hrs	Members and Public. Informal meeting and observing.

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Monthly Meeting Calendar 2012

Travel for our monthly speakers is sponsored by:		
		
Date	Subject	Speaker
24 Aug	Observing Galaxies - Faith Jordan AGM Meeting Starts at 19.00hrs	
28 Sep	The future is out of this world	Dr Stuart Eves
26 Oct	Observing Galaxy Clusters	Owen Brazell
23 Nov	The Search for Intermediate Mass Black Holes	Dr Tom Maccarone

Monthly Meeting Calendar 2013

Date	Subject	Speaker
25 Jan	Mapping the Universe	Dr Rita Tojeiro
22 Feb	Galaxy and Mass Assembly	Dr Jon Loveday
22 Mar	Active Galaxies	Nick Hewitt
Apr		
May		
Jun		
Jul		
Aug		
27Sep	History of the Dark Sky	Alan Dowdell
Oct		
Nov		

All details correct at time of publication.

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Observatory

Locks

The two internal padlocks at the observatory have recently been changed for combination locks to avoid the need to keep duplicating keys.

If you have keys for either of those locks could you please contact me and I will happily take them in return for the combination.

Maintenance

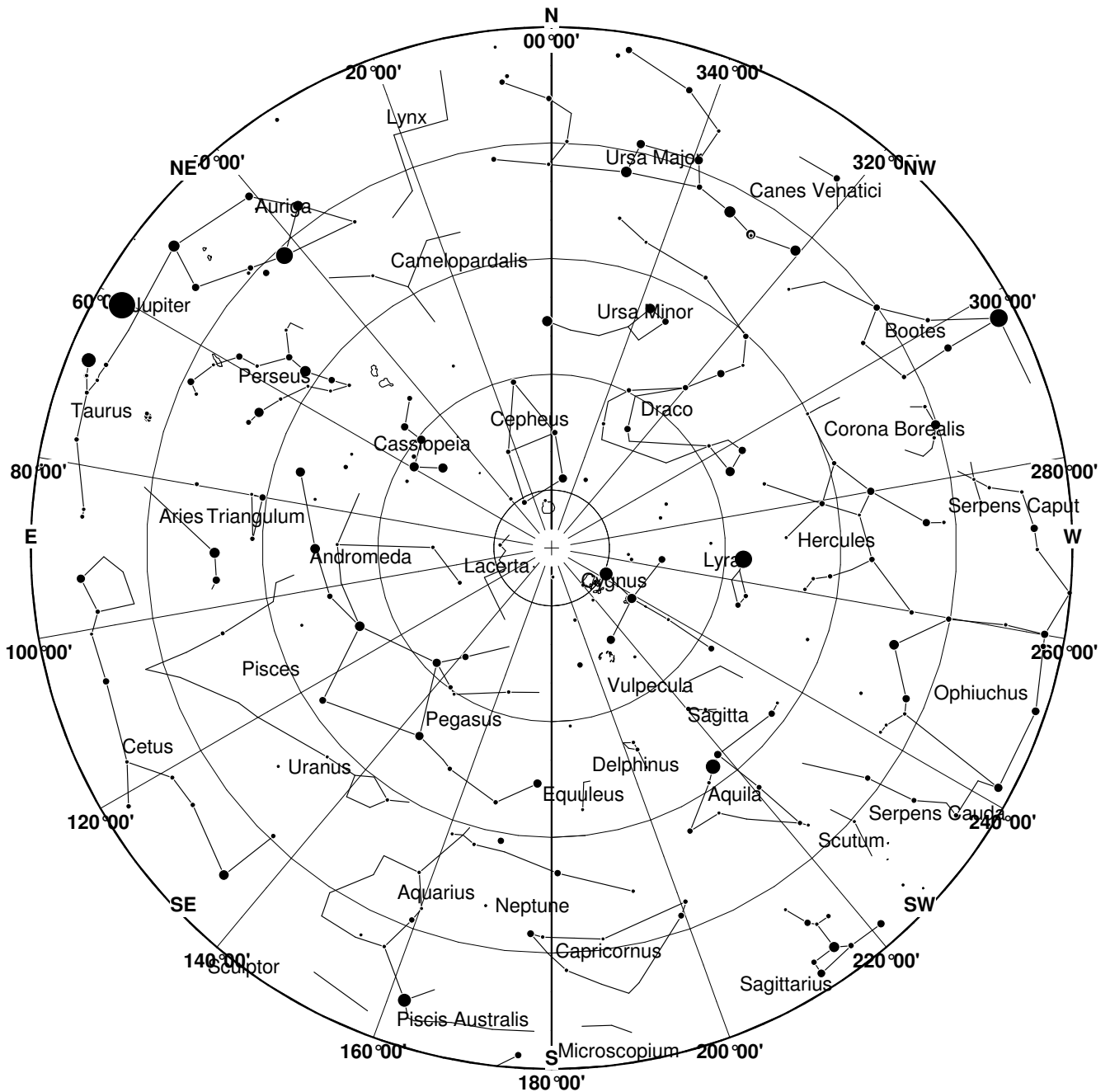
I would like to get the dome painted before the end of this reasonable weather period - we have the paint etc and just need three or four people who are happy to work on ladders to get the job done one weekend.

At the same time, it would be nice to get a few other small jobs sorted - replacement of a couple of bulkhead lights, some weedkilling and perhaps a few trips to the tip!

If you can help with any of this, please contact me at any of the usual places.

Brian Curd
Observatory Director

September 2012 Sky Map



View from Newchurch Isle of Wight UK - 2100hrs - 15 September 2012



Collinder 399 (Cr 399) is a random grouping of stars located in the constellation Vulpecula near the border with Sagitta. Collinder 399 is known as Al Sufi's Cluster or Brocchi's Cluster. The brighter members of this star cluster form an asterism also known as the Coathanger. Before 964, it was first discovered by the Persian astronomer Al Sufi, and described in his Book of Fixed Stars in 964.

In the 17th century, it was independently rediscovered by Italian astronomer Hodierna. In the 1920s, Brocchi, an amateur astronomer and chart maker for the American Association of Variable Star Observers (AAVSO), created a map of this object for use in calibrating photometers.

In 1931, Swedish astronomer Collinder listed it in his catalogue of open clusters.

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It uses material from the Wikipedia article "Brocchi's Cluster"

September 2012 Night Sky

Moon Phases

New	1 st Qtr	Full	Last Qtr
16th	22th	30st	8th

The Autumnal equinox, the time at which the Sun is directly above the equator is on the 22nd at 03:44.

Planets

Mercury

This month Mercury makes a very unfavourable evening apparition. The orbital geometry is such that it is only a few degrees above the horizon at sunset, and from our latitude not visible against the evening twilight.

Venus

Through the month Venus passes from the Gemini through Cancer into Leo. It is so bright that it can not be missed in the predawn sky. It is dropping down towards the horizon now but with sunrise getting later every morning this effect is not yet very noticeable.

Mars

For those with a good western horizon Mars will present a challenging object. As the sky darkens it will be just a few degrees above the horizon and now being only a few arc seconds in diameter can be considered as an unfavourable object.

Jupiter

Jupiter is very bright and can easily be found between the horns of Taurus. At the start of the month it rises in the East just before midnight and by the end of the month is high enough in the sky for comfortable observation without having to stay up all night.

Saturn

Saturn is now too close to the Sun for observation and as it approaches next month's conjunction.

Neptune

Neptune is a little under 1 degree east of the magnitude 4.5 star 38 Aquarii. There are no bright stars to act as guides to finding this planet. The best way to find it is by regular observation using a star map to get a familiarity

with the star field. Once identified it is relatively easy to return to it.

Uranus

Uranus is at opposition at the end of the month, but like Neptune is not close to any bright stars it is about 1 degree east of the magnitude 5.7 star 44 Piscium. Again, as with Neptune the best way to find it is with a star map.

Meteors

The **Piscids** meteor shower has two peaks the first on the 9th and the second on the 21st. The expected rate is about 10 per hour for the first peak and 5 for the second.

The **Alpha Aurigids** peak on the 15th with an expected hourly rate of 10.

Deep Sky objects

Collinder 399 The Coat Hanger Cluster RA 19h 26m Dec 20°12' mag 3.6

The universe really does have a sense of humour; this is a coat hanger, floating above the starry background out there in the Milky Way. It can be seen with the naked eye as a brighter knot in the Milky Way just on the Vulpecula side of the border with Sagita. Any optical aid shows the coat hanger with its rather over sized hook. A telescope may be too much for this cluster unless the magnification can be kept very low. If a telescope is available try to spot NGC6802, this rather small magnitude 8.8 cluster would make the seventh and most eastward star in the bar of the hanger.

M15 Globular Cluster RA 21h 30m Dec 12° 10' mag 7.5

This impressive globular is quite bright and very easily found in binoculars. Follow the line from Baham to Enif, about 4 degrees beyond the horses nose to find this rather large fuzzy looking star. Through a telescope it reveals its self as a bright core surrounded by a halo of much fainter stars. As with all globulars the view becomes more impressive with increasing aperture. This is one of only a few globular clusters to contain a planetary nebula, it is however about 14th magnitude and for visual beyond all but those with the largest telescopes and best eyes.

M39 Open Cluster RA 21h 32m Dec 48° 32' mag 4.5

The Milky Way is full of star clusters, many are dimmed by intervening dusts or are so surrounded by other stars that it can be difficult to identify them. M39 can be spotted with the naked eye under good conditions, it is large, about the size of the full moon, so binoculars or a rich field telescope are the best instruments to use to observe this triangular shaped cluster.

Peter Burgess

Binoculars for Astronomy

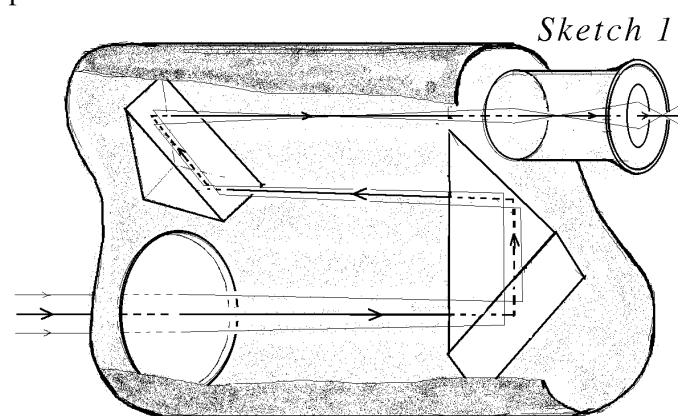
Lecture report 27 July 2012

Richard Flux, VAS (a founder member)

What better way than to start the evening of the Opening Ceremony of the Olympic Games, with a well-attended binocular tour of this fascinating subject, including 'Premier' and 'First division League' examples from Richard's collection. A show of hands indicated that all members possess at least one pair - but the details of how they work suggested that some are not suitable for celestial viewing. This lecture travelled fast, and "not everything was covered so it was question of knowing when to stop" - the notes here are a brief approximation to this lecture.

NEVER POINT BINOCULARS TOWARDS THE SUN AND MAKE SURE CHILDREN DO NOT DO SO.

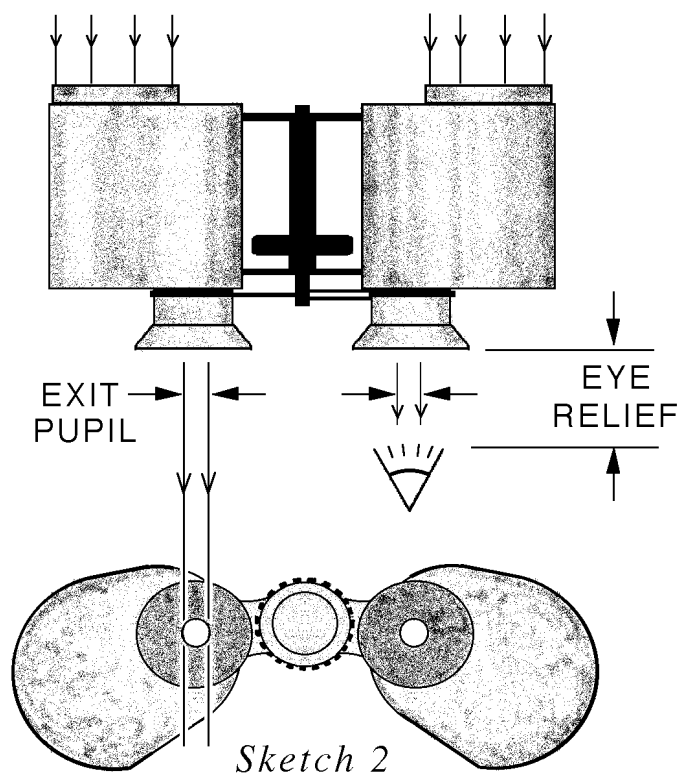
Things need updating since the previous talk of ten years ago. With 940 recognized types, binoculars ('binos') can be good value for money - no set-up time - the ultimate grab and go! **Astro uses** include: Deep sky observing, Comet hunting, Nova hunting, Variable stars, Jupiter's Moons, Artificial satellites, Aurorae, Noctilucent clouds, and General sweeping with their wide field of view - Planets are not in the list since they require telescope power.



Popular sizes are: 8x30, 8x40, 7x50, 10x50, 12x50, 10x70, 11x80, 20x80, 25x100. Binoculars being a Continental invention, these numbers are the magnification x objective lens size (aperture) always in millimetres. Three types were illustrated, Galilean, Roof prism, and Porro prism. Galilean contain no prisms, just a pair of telescopes side by side producing erect images, they can be lightweight for theatre use. Roof prism design are complicated and didn't appear favoured as much for astronomy as the more familiar Porro prism design, see half-a-bino in *Sketch 1*, with the objectives displaced outwards. The magnitude of visible objects increases with the aperture but the 'exit pupil', see *Sketch 2*, dramatically affects performance.

This is the diameter of the light beams delivered from the eyepieces into the eyes, visible as a bright disc in each eyepiece when holding the binos a foot away. (Watch them decrease with increasing zoom - but zoom binos are not celestially recommended.)

The size of the exit pupil is obtained by dividing the objective size by the magnification, so the popular sizes above give respective exit pupils of approximately 4, 5, 7, 5, 4, 7, 7, 4, 4 mm. Now imagine using these binos at night if your dark adapted pupil size happens to be 5mm. The binos with exit pupils bigger than 5mm waste some light, but the ones less than 5mm don't supply enough light to your eye. Since dark adapted pupils are 7mm in young persons, decreasing with age, then binoculars can be chosen to match the user's age. But large exit pupil size means eye positioning is less critical and such binos can be easier to hold.



The light power received increases in proportion to the square of the aperture. How much is delivered to each eye depends on the transmission efficiency through the binos, improved by the use of coatings, good quality prisms, and matching the eye pupil to the exit pupil. With colour as another variable, technical aspects of this subject are large. Eye-relief is usually >10mm, and focussing leeway gives spectacle users the option of continuing to use them or not. One eyepiece usually has independent focus adjustment, plus common adjustment for both.

Prism quality: BAK-4 is high index barium crown glass, high quality. BK-7 is low index borosilicate glass, also good quality but brightness falls off at the edge of the field and the exit pupil may be square-shaped.

Anti-reflection coatings: substances listed were MgF, LiF, CaF, NaF, MgCl₂, SiO₂ and cryolite. A no-coatings system gives about 50% light loss.

- FC means fully coated single layer, all air-to-glass surfaces, giving about 17% loss.
- MC, multicoating gives about 11% loss.
- FMC fully multiple coating gives about 5% loss.
- Broadband coatings extend the low losses out to the far regions of the optical spectrum.

Other parameters: the RBI (relative brightness index), is the exit pupil squared (so bigger and smaller binos can have identical RBI although the bigger ones supply more light.) The RLE (relative light efficiency) is a measure of the improvement of an instrument due to coatings relative to uncoated optics.

The **History**, briefly noted here, covered:

- 1609 - Holland. Hans Lippershey, the optic tube.
- 1729 - Achromatic lens. Chester Moore Hall.
- 1823 - Austria. Johann Voightlander. Galilean binoculars.
- 1854 - Ignazio Porro, the prism system.
- 1898 - Germany, Wetzlar, roof prisms.
- 1917 - Wide angle. Nippon Kogakia.
- 1935 - Germany, coatings.
- 1958 - Zeiss "B-glasses" long eye relief.
- 1990 - Image stabilized binoculars launched on the civil market.

Military binoculars were briefly discussed, cast iron types, Russian, Polish and German, some were 25x150, big ones for gun ranging, trench periscopes may include magnification. Prisms when wet do not give total internal reflection so military binos may include metal reflective prism coatings.

British manufacturers were listed including Barr and Stroud, Kershaw, Ross, Taylor Hobson, and Wray.

Mountings become necessary for >10x magnification. Tripods need to be tall, a special parallelogram mount allows binos to be pulled down with the same aim so children can see the same object as an adult. The sunlounger is a comfortable way to view.

Image Stabilization mentioned a bellows prism, Canon, Fujinol, and allowing hand-held use to 20x.

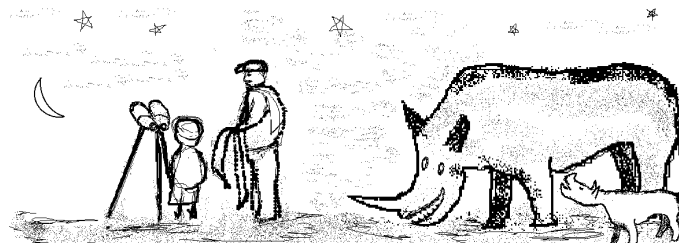
Binos for Astro Use - suggested parameters: aperture >40mm. Porro prisms BAK-4. Exit pupil 4-6mm. FMC coatings, a steady mount for >10x magnification, inclined eyepieces for large binos, and a large focussing wheel usable with gloves.

Recommended binos: Optical Vision Ltd, Field Master 10 x 50, about 50 quid.

Thanks were expressed to: Brin Best, Alan Hale, J W Seyfried. The portrait illustrating eyes was by Pete Seiden, and thanks to the Web sites of Canon, Celestron, Fujinon and Nikon.

Discussion: covered the effects of floaters being reduced using two eyes; false 3D effects; visibility or invisibility of geostationary satellites, and discerning the shape of the ISS. Some cheapo binos, perhaps terrestrial use only, filter out red giving greenish images. Collimation (coincident images) needs to be good so binos are visually comfortable. Finally, an interesting exercise is - forget what you know and try to work out how the Solar System works from scratch, observing Jupiter's moons and various planets retrograding.

Dr. Guy Moore



"After a night out, binos like to dry off in a warm room, condensation gets wiped off and then they live in their case..."

New NASA Mission to Take First Look Deep Inside Mars

ScienceDaily (Aug. 20, 2012) — NASA has selected a new mission, set to launch in 2016, that will take the first look into the deep interior of Mars to see why the Red Planet evolved so differently from Earth as one of our solar system's rocky planets.

The new mission, named InSight, will place instruments on the Martian surface to investigate whether the core of Mars is solid or liquid like Earth's, and why Mars' crust is not divided into tectonic plates that drift like Earth's. Detailed knowledge of the interior of Mars in comparison to Earth will help scientists understand better how terrestrial planets form and evolve.

More at Science Daily

Thoughts on owning a large telescope

In March 2011, I had a bit of a windfall, a nice fat tax rebate which I decided to put towards a large telescope. As of 2012, I've been into astronomy for 20 years and have always owned small scopes, in the 6 to 12 inch range but, when your observing interests lie with deep sky rather than the Moon or planets, the larger the scope, the better. I'd always wanted something in the 16 to 18 inch range so I jumped at the chance of being, at last, able to fulfil that ambition.

However, there are a few things to consider when you decide you want to get a larger scope.

Aperture is everything to a deep sky observer and I decided to go for an 18" dobsonian which is not too small and not too big to handle either; even another two inches of aperture would have resulted in a physically much larger telescope than the one I ended up with, but the light-gathering power and, hence the views, would not be significantly better. The sad fact is that the larger the telescope, the more heavy and unwieldy it becomes. I could lift my 12" with no problem but anything larger and you will either need some kind of wheeled base to move it around on or some kind of observatory.

I have had my 18" dob, built by Nottingham-based telescope maker David Lukehurst, for just under a year and, while the weather has limited opportunities to use it (particularly over the four month period laughingly referred to as late spring and summer), I have discovered a few things – good and bad - about owning such a large instrument.

People usually ask for the bad news first, so that's what I am going to give you! Well, it's not bad news, as such, rather some practicalities which need to be taken into consideration.

Cost. These telescopes are not cheap to buy and most of the cost is the primary mirror. My dob cost £3500 and that is just a basic scope, with a 1/4 wave mirror (although mine turned out to be 1/8 wave as the mirror maker had a spare lying around!).

Storage and transport. You will need a shed or a garage, if an observatory is not an option, to keep it in. A telescope of this size just isn't practical to assemble and disassemble before and after each observing session. It is unlikely that a scope of this size will fit through the doors, so keeping it in the house may prove impossible, unless your house is one that has previously been adapted for wheelchair users, with ramps and wide doorways. Even the base is heavy and, unless you have a fit and able person to help you carry it, or you have a roll-off roof or similar observatory arrangement, you will need somewhere to

keep the thing and roll it out for each session. If you have removable wheelbarrow handles fitted to it, then even one reasonably fit adult can move it pretty easily.

If there is a run of good weather, and you have a scope cover, you can leave it outside on the lawn or patio between sessions.

Another thing to think about is whether you need to transport your dob to star parties or not. If your new scope is too big for your car, that may prove a problem unless you have a friend who can transport it in theirs. My 18" fits easily into a small Renault MPV (an medium-sized estate-type car) and will fit into most other medium hatchbacks. However, if you have a saloon car or a small hatchback, you may have a problem and will either have to leave the scope at home or get someone with a bigger vehicle to do you a favour.

A few tiny worries. One thing I have discovered is that the bigger the mirror, the more your anxieties will increase as to its wellbeing, and it seems that these worries grow in direct proportion to the size of the mirror! A 12" mirror isn't cheap at about £700, should it need replacing, and a recoat costs around £100 but an 18" however, will cost upward of £2100 to replace and a recoat is best part of £200, so you'll feel like cosseting your mirror and wrapping it in lovely soft cotton wool. These worries will die away, if not vanish completely, over time, and it's the same with any new item, whether it's a car, surfboard, telescope or camera, etc. – all new things invoke some degree of worry and you want to fuss over them and cosset them. My fears were diminished, if not completely eradicated, by trips to star parties and looks at and through, mirrors in pretty bad states. At the Texas Star Party this year, I was surprised some people could see anything with their scopes, such were the state of one or two mirrors I saw.

As of August 2012 mine has not been out of the shed for three months, thanks to the diabolical weather we have had over this three month period (I refuse to call it 'summer'), and I am hoping the mirror hasn't got mould on it, but the shed is well ventilated and there is silica gel in the mirror box, but it can be – carefully - washed.

Now the bad news is out of the way, here's the good news.

The good news is that the views you get through a large scope completely outweigh the inconveniences of owning one. I am seeing far more than I did with the 12" and the smaller scopes which preceded it. Among my favourite objects to observe are galaxy groups and clusters, most of which are made up of extremely faint members. What will be on the edge of detection, and often invisible, in a 10 or 12" become observable – even if only just so – in an 18". It's not just the faint stuff which benefits from added aperture, brighter objects do, too. I have barely looked at Messier objects in best part of 20 years but, since getting

the larger telescope, I have been revisiting old ground and looking at them in a new way. With increased aperture more and more details become visible, and the objects that were mere smudges in small instruments come alive. As a hard-core visual deep-sky observer this is very important to me.

Now I have had the 18" for best part of a year, I am very happy with it, despite the one or two disadvantages with weight and storage. These are really non-issues, as I have wheelbarrow handles fitted to it so it can be easily moved and storage is also not a problem, although I'd rather have a garage than a plastic shed to store it in, as I am sure the conditions would be better for it in a garage.

Would I want a larger scope? Probably not because 18 inches is a good size, not small but not too big it can't be handled. I leave mine assembled in the shed and wheel it out for observing. I check the collimation, pop an eyepiece in and begin observing. It takes about 5 minutes. If I was assembling it from scratch, it'd take just under 10 minutes. It actually takes less time to set up for an observing session than an 8" equatorial I also own – it is also far less frustrating to use than an equatorial (I hate equatorial scopes!).

My advice to any hard-core visual deep sky observer who wants more aperture (and it is a rare one who doesn't!), would be this: if you get an opportunity to get a larger scope of this size then take it. As long as you are fit enough to move it around and can easily store the thing, then go for it.

Right, now for some good clear nights that don't coincide with a fat Moon...is that too much to hope for this year?

Faith Jordan

First evidence discovered of planet's destruction by its star

The evidence indicates that the missing planet was devoured as the star began expanding into a red giant.

An international team of astronomers has discovered the first evidence of a planet's destruction by its aging star. The evidence indicates that the missing planet was devoured as the star began expanding into a "red giant" — the stellar equivalent of advanced age. "A similar fate may await the inner planets in our solar system, when the Sun becomes a red giant and expands all the way out to Earth's orbit some 5 billion years from now," said Alexander Wolszczan from Penn State University. Wolszczan also is the discoverer of the first planet ever found outside our solar system.

More at [Astronomy Magazine](#)

FOR SALE

Canon 70-200mm f/4 L zoom, boxed and with cases, hood, caps, etc, £400 (no offers, please). Non-IS version. Reason for sale - surplus to requirements.

Televue eyepieces

8mm Radian £140

40mm Plossl £90

4.8mm Nagler £100

Reason for sale, same as the lens, not needed any more. Near-offers welcome

Space-related DVDs I'd like to get rid of, I have never watched them and think they could go to a better home:

BBC: The Planets I

BBC: The Planets II

BBC: Space (with Sam Neill)

Sir Patrick Moore's Journey to the Stars.

£5 each DVD or £15 for the lot.

Books

Mars (Henbest and Couper)

Through the Eyes of Hubble (Naeye)

Colours of the Galaxies (Malin and Murdin)

Practical Astronomer's Deep Sky Companion (Gilmour)

Infinity Rising (Szymanek)

Beautiful Universe (Sky and Telescope).

Books £5 each or £20 for the lot.

I can be contacted on 07557 331500 or at faith.jordan@yahoo.co.uk. I can also bring any item to the Observatory on a Thursday evening for viewing.

Hubble's image of a pair of star clusters that are believed to be in the early stages of merging. See larger version. Image: NASA, ESA, and E. Sabbi (ESA/STScI)



Occultation of Jupiter 15th July 2012

Considering the weather on 15th July, I doubt that many folks ventured out at 2am to catch the occultation. Well I know of only two, myself and my cousin.

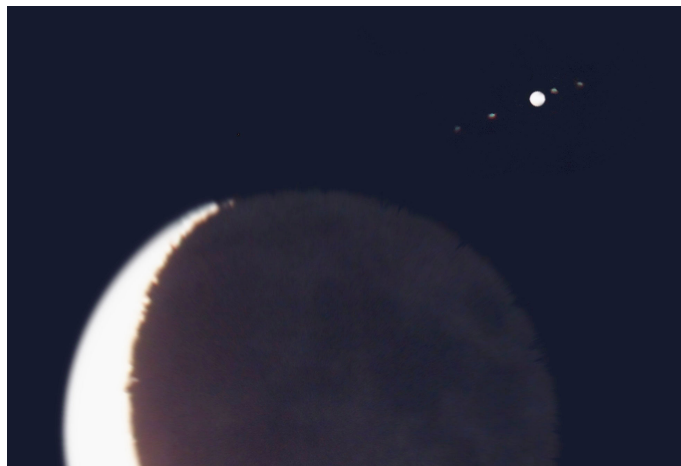
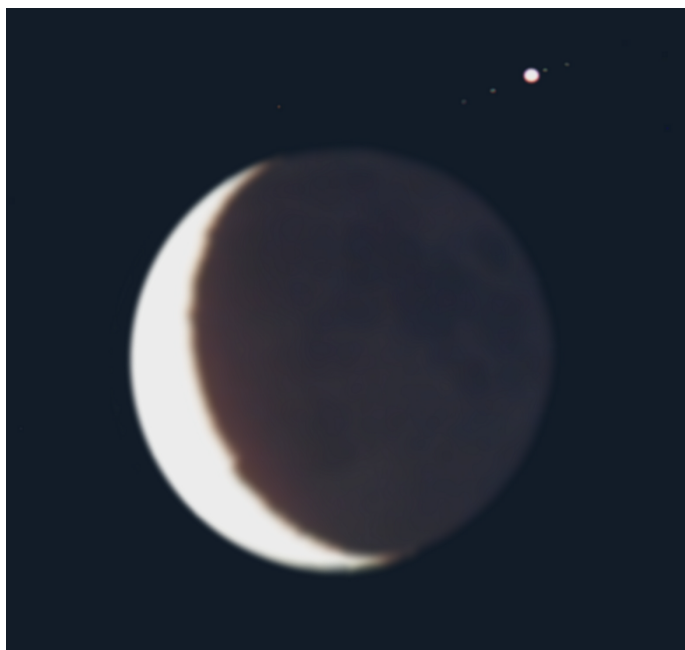
In the early hours, I set up the society's 127mm LXD75 refractor and tried to start tracking Jupiter with my ETX90.

Sadly, there were no breaks in the clouds to accurately line up for imaging.

However, I did manage to witness, somewhat briefly, the eerie event through the refractor! Jupiter appeared through a gap in the clouds, seemingly suspended like an ethereal golf ball next to the Moon. Being low in the sky, it had the characteristic orange tinge and I felt privileged just to have glimpsed it for a couple of seconds before the clouds came back, it was quite surreal.

Meanwhile, my cousin Mick Weaver was having an equally frustrating time on the mainland having driven 60 miles to a suitable location! After about an hour, we both decided to head home with no images. Luckily for me, that was a 5 minute drive. Mick, on the other hand, had a considerable journey ahead of him and this turned out to be his change of fortune.

Driving home, the skies cleared and he quickly set up in a layby in Rugby, Warwickshire. This was not ideal with road vibrations from passing traffic. Using his Olympus EPL2 and WO Zenithstar 80 II ED refractor, he made the most of this opportunity. The image shown is a single 1/2 second exposure, ISO 1600. It may not be perfect but I think it's definitely one of which to be proud.



I wonder if anybody else managed to see the show?

Martyn Weaver

For Sale (at extremely low cost)

Meade 10" f10 LX200 Classic SCT fork mounted on field tripod.

Drives and 'GOTO' function not operational but usable manually - the optical tube assembly is fine.

Fitted to a German mount, it would make a superb portable large telescope - something impractical in its original configuration.

The 'scope, in its original carton, comes complete with Meade 1.25" diagonal prism, 26mm Meade 4000 Super Plössl eyepiece, Meade 8 x 50 finder scope and mount, manual.

Price just £100!

In addition, at no extra cost:

Eyepieces: 40mm Meade 3000 Plössl, 10mm Vixen Lanthanum long (20mm) eye relief 6.3 Meade 4000 focal reducer/field flattener (converts the 'scope to f3 wide field) Meade photographic T-adapter Camera bracket

Original cost of these items alone is over £300!

Contact Bert Paice on 01983 882156



A Curious Mind

Sometimes I stumble on a website that keeps me interested for more than a few minutes. I recently discovered one that kept me “glued” for quite a lot longer than that, it’s called “A Curious Mind - Musings about science, art and the links between them” and it’s operated for NASA. The site explores many diverse subjects from a comparison between spider’s webs and the cosmic web to medal counts in the Olympics. It’s a fairly new weblog but one well worth a look.

More at <https://blogs.stsci.edu/livio/>

Free Science Learning Materials

Another interesting site is called LearnersTV. It offers free video lectures and presentations on a wide range of subjects including astronom. The videos are quite simply presented and for the most part appear like a teacher is talking and at the same time writing/drawing material on a blackboard for you. The ones I have seen so far go at a reasonable pace and I’m sure you will find something of interest.

More at <http://www.learnerstv.com/>

Curiosity Mars rover takes first drive

The US space agency's (Nasa) Curiosity rover has finally begun to roll

The Mars robot, which landed on the Red Planet two weeks ago, turned its six wheels briefly on Wednesday to satisfy engineers that its locomotion system was in full working order.

Curiosity is a sophisticated mobile science laboratory.

It has been built to drive at least 20km across the Martian landscape to investigate whether the planet ever had the conditions necessary for life.

Wednesday's drive saw the rover roll forward 4.5m, turn clockwise on the spot for about 120 degrees, and then reverse up 2.5m.

It took about five minutes to complete the manoeuvre. Another 10 minutes or so was spent photographing the outcome and recording the vehicle's historic first tracks in the Martian soil.

The significance of the test drive was not lost on Nasa's Curiosity project manager, Pete Theisinger.

"It couldn't be more important," he told reporters. "We built a rover and unless the rover roves, we really haven't accomplished anything.

"And the fact that we completely exercised it and everything was on track is a big moment."

Nasa has made one other key announcement on what has been the 16th day of this mission. It has named the spot on which the robot landed after the science fiction author, Ray Bradbury.

The celebrated American writer, who died in June, was an enthusiastic supporter of the space agency.

More at <http://www.bbc.co.uk/news/science-environment-19342994>

Observatory

For your own safety, when visiting the VAS observatory, please bring a torch. Also, please make sure you close and lock the car park gate if you are the last to leave - if you need the combination to the lock, please contact a member of the committee.

Articles Needed

New Zenith welcomes letters, articles or pictures related to all aspects of astronomy. Contributions to the Editor at the email or postal address on the front page.

“Nothing happens until something moves”
Albert Einstein

Quotations

“Once the sun goes down, all the weirdos turn crazy!”
Homer Simpson

“There is not the slightest indication that nuclear energy will ever be obtainable”
Albert Einstein

“Magnetism, as you recall from physics class, is a powerful force that causes certain items to be attracted to refrigerators.”
Dave Barry