



The Newsletter



of the
Orwell Astronomical Society (Ipswich)

2011
July

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No 465



**CHRISTCHURCH PARK SATURDAY & SUNDAY
21ST & 22ND MAY**

Another successful weekend showing the general public how to look at the Sun using various safe methods. Also how to find Venus during the day.

Society News (Roy Gooding)

1 Committee Meeting Saturday 10th September

All members are invited to attend the next Committee meeting. Start time 20:00 Venue: Methodist Church Hall.

2 Access into the School Grounds and Observatory Tower

Please use the third gate into the school grounds, this is the gate behind the Gym. If the Black door entrance at the base of the observatory tower is locked, you will have to phone someone in the observatory to let you in. My mobile number is [REDACTED]. (Roy Gooding) alternatively the Observatory mobile is [REDACTED] during meeting hours. The gate code is on the back of your membership card.

3 Welcome to New Members

Matthew Leeks

4 Events Programme for 2011

This provisional event list will be updated through out the year

Meeting	Venue	Date
Autumn Equinox Sky Camp 2011 Organised by Loughton Astronomical Society with the support of the SPA	Kelling Heath, Norfolk	19 th – 30 th September
Open Weekend	Orwell Park Observatory	Saturday 1 st & Sunday 2 nd October 19:30 to 22:00
Lecture Meeting Telescopes from Hell: (what to watch out for when buying a telescope) by Martin Mobberley	Methodist Church Halls, Blackhorse Lane	Friday 14 th October 20:00
FAS Convention	Institute of Astronomy, Cambridge	Saturday 15 th October
Lecture Meeting Are We Star Dust or Nuclear Waste? (Stellar Evolution) by Robin Catchpole	Methodist Church Halls, Blackhorse Lane	Friday 4 th November 20:00
Ipswich Beer Festival Social event		TBA
Christmas Meal Social event	Venue TBA	Wednesday 14 th December

OPEN WEEKEND 2011

This event has now been confirmed with the School and will be held on Saturday 1st and Sunday 2nd October
Doors open for the public at 19:30

As usual as much help as possible is required to make this another successful Open Weekend.

If you are only available to help for a short time your presence will still be appreciated.

ELECTRONIC NEWSLETTER ARCHIVE

I have updated the electronic archive of OASI *Newsletters*. It is complete from edition 1 (February 1972) to edition 462 (April 2011) inclusive. It contains a scan of every non-blank page of the *Newsletter* and an index in the form of an Excel spreadsheet. The spreadsheet facilitates locating particular articles by keyword searches using the Excel *Find* function.

Key statistics of the electronic archive are:

Newsletters archived:	edition 1 to edition 462
Period:	February 1972 – April 2011
Number of scanned pages:	5300
Number of items indexed:	11,208
Size of archive on DVD-ROM:	2.8 GB

If any member of OASI wants a copy, please ask and I'll provide a DVD.

James Appleton

OCCULTATIONS DURING JULY

No interesting lunar occultations occur during the month under favourable circumstances.

James Appleton

Night Sky (July)

All times GMT

Moon

New Moon	1 st Quarter	Full Moon	3 rd Quarter
1 st	8 th	15 th	23 rd

Object	Date			Mag	Notes
		Rise	Set		
Sun	1	03:38	20:19		
	31	04:15	19:48		
Mercury	1	05:05	21:34	-0.1	Mercury is at greatest eastern elongation on the 20 th , but as it is very low down in the north western sky it will be difficult to see
	31	06:42	20:12		
Venus	1	02:45	19:21	-3.8	Venus is moving closer to the sun in the bright pre-dawn sky and will not be easily seen
	31	03:46	19:42		
Mars	1	01:38	17:47	1.4	Mars is low down in the pre-dawn north eastern sky
	31	00:50	17:34		
Jupiter	1	00:29	14:42	-2.2	Jupiter is now in Aries, and is prominent morning sky object.
	31	22:32	13:02		
Saturn	1	12:12	23:58	1.0	Saturn is now moving into the bright evening twilight sky
	31	10:20	21:58		
Uranus	1	23:29	11:50	5.8	Uranus is in Pisces and is also observable in the early morning sky
	31	21:27	09:47		
Neptune	1	22:31	08:37	7.8	Neptune is in Aquarius
	31	20:28	06:32		

Meteor Showers

Shower	Limits	Maximum	ZHR
α Cygnids	July to August	July 21 st & August 21 st	5
Capricornids	July to August	July 8 th July 15 th July 26 th	5
δ Aquarids	July 15 th to August 20 th	July 29 th & August 6 th	20 10

Meteor source is the BAA Handbook

Astronomy in the Park 21st May 2011

Roy Gooding

It was that of time of year again to hold another "Astronomy in the Park", It does not seem that long ago since the last one in 2010. This was our third year, of staging a public event in Christchurch Park, to allow safe viewing of the Sun. Eric and I arrived at the park about 10:30, Bill Barton was already in residence and was waiting in the car park. We proceeded to take our equipment to our normal observing site, at the back of the Reg Drive centre.

In the next half hour or so all the equipment that was to use had been assembled

The kit was much the same as previous years. After about 20 minutes were ready to accept visitors. Martin Cook arrived while we were assembling our equipment.

Joe Walsh brought his 3" refractor

I brought my 70mm Maksutov

Bill Barton brought along his 4" refractor

John Wainwright brought his 10" Dobsonian

Two of the societies scopes were also in use the 40mm Coronado and the Meade

Two telescopes set up for solar projection the 3" refractor and the Maksutov. Two telescopes with solar filters, the Meade and the 10" Dobsonian with one dedicated solar telescope, the Coronado.

Around 13:00 an Evening Star photographer arrived. He stayed for about 20 minutes, taking many pictures. The article was published in the paper on the following Tuesday.

During the afternoon, a wedding was taking place in Christchurch Mansion. For a while many wedding guests came up to take a look at the sun. At one stage 4 bridesmaids were seen hurrying down the hill to the mansion.

Other members who came in the morning included Jenny Wood, with Claire Verlander passing on her way into town. Tina Hammond and Nicky and Pete Richards arrived in the afternoon. As in previous years we had several magnifying glasses to demonstrate the power of the sun and dangers of looking at it with out the correct safety equipment. At one time Tina managed to set the target cardboard on fire, to the

amusement of on lookers. The steady breeze must have help in turning a smouldering spot on the cardboard to a full fire. This was quickly extinguished.

Over the two days one visitor joined, Matthew ? one new history was sold, and 2/3 membership forms were given out.

In previous years of Astronomy in the Park, there had always been a large number of people walking past our site, to and from town. It was quite noticeable this year how few people there were in the park. Sunday was even quieter, but this could be attributed to the strong wind. At one point we had to moved the telescopes under the trees to stop them getting blown over.

It was difficult to estimate how many visitors we had, but it was probably some where between 150 to 200.

Members in attendance on Sunday were:

Eric Sims, John Wainwright, Bill Barton, Martin Cook, Nicky and Pete Richards, Tina Hammond and Mike Whybray

As usual, would like to thank all members who able to attend this event.

Holywells Park Out Reach Meeting 11th June 2011

Roy Gooding

This was our 4th public out reach meeting arrange for this year. For the previous 3 meetings, the weather had been on our side. The probability of having yet another meeting with good weather was diminishing. The day began with rain, but this soon cleared by breakfast time, leaving scattered cloud.

I had arrange for John Wainwright to pick up me and my equipment for the evening. We arrived at he park about 18:00, and met Nick Wilcox, who informed us that a member was already here and has set up his telescope. I was a little surprised as there was no one one our designated area, It transpired that Nick had in inadvertently directed Bill Barton to an alternative site. We all made our way over to where Bill was, and after a short discussion moved back the expected area, where we proceeded to assemble our equipment. Nick provided 3 steel rods for attaching the society's yellow banner. After which we declared our site open for business.

A few campers wandered over, but it proved to be a game of patience. The patches of clear sky were very few and far between. One large black cloud occulted the sun for over 20 minutes. There were a few prominences visible, but sun spots seemed to be absent again. I was not able to demonstrate our usual trick of burning holes in black card. The sun was so low in the sky that I could not even produce any smouldering smoke from the card. I estimated that about 70 visitors came over to see us. One visitor was interested enough to take away a application form, so we may have a new member in the next week or so

Compared to our previous events, very few members showed up, however as there were fewer people camping on the park than expected, we were able to cope with the numbers.

Equipment in use was:

The society's PST

Bill Barton's 5" refractor

John Wainwrights' 10" Dobsonian.

Completing the list, I had my 70" Maksutov and 120mm refractor

By about 20:00 the moon had appeared between the trees. As the sun was by now getting low down and disappearing behind some trees, our attention was turned to the moon. Observing the moon in a bright sky does not give a very good image, but the visitors seemed happy enough to see the moon's craters. A little after 21:00 the sky was becoming more overcast. We would have liked to stayed long enough to observe Saturn, but by 21:30 we decided to call it a night and started to pack up.

Matt Leeks, one of our new members, he had joined just 3 weeks previously at the Christchurch park event, was happy to change his role from visitor to guide in record time. Another one of our members, Mike Norris, arrived with his wife for the picnic. Roy and Merlyn Adams arrived at about 19:00. In total only 8 members, including 2 wives, arrived to either help with equipment or for the picnic. Lets hope more members attend the Barbecue in a fortnights time.

This was a successful meeting, as we achieved everything we had set out to accomplish and Nick Wilcox was appreciative for our participation in the Park's 75th anniversary event.

Chairman's Chat and SHA Picnic Event

I'd like to thank everyone who supported the inaugural March and April "Open Field Observing" sessions held at Newbourne Village Hall. It was great to see so many there, including new members, very encouraging! With that in mind, I will be organising further events between September and April. That's eight months of the year. Keep an eye on the newsletter and the OASI email list for updates. If you are not on the email list and would like to join, please get in touch with Pete Richards . Pete's contact details are on the Committee page, inside back cover of this journal.

Please note the Society for the History of Astronomy (SHA) picnic takes place on Saturday 16th July starting at 1pm in the grounds of Orwell Park School. This has not been formally advertised in the journal but has been on our website at <http://www.oasi.org.uk>. The picnic is open to OASI members and families as guests of the SHA as well as School staff. I would like to see as many of you there as possible. Please bring along some food and drink!

Several OASI members, including myself, are also members of the SHA. Our association with the SHA goes back of my predecessor, Ken Goward, who was a founder member and Treasurer of the SHA. Dr Allan Chapman, our President, is also the SHA President.

The school have very kindly offered the use of the Orangery and Alstom rooms for the day. In addition water boilers to support the dedicated tea drinkers! Hopefully the weather will be favourable and we'll be able to use the field at the back of the school facing the river Orwell which the Orangery opens onto. A fabulous view. Also some telescopes set up for solar observing. Observatory tours shall take place during the afternoon. If you are able to help out in any way, please get in touch with me. Provisionally the Thursday

evening before the event is a spring cleaning session.

I have received confirmation from English Heritage that my application to upgrade the listing the observatory from Grade 2 to Grade 2* has been received and is being processed. English Heritage (EH) receive over 2000 relisting applications every year. The purpose of relisting is to provide additional protection by raising the observatory's profile with EH. This opens up additional funding sources for restoration including grants. I would like to thank Dr Allan Chapman, Peter Hingley (Librarian, Royal Astronomical Society), Peregrine Bryant (Conservation Architect), Bob Marriott (Instrument Curator, British Astronomical Association), Justine Barber (Burser, Orwell Park School) and Rowland Constantine (Headmaster, Orwell Park School) for their support.

OASI Publicity goes from strength to strength! OASI recently appeared in the evening star on two separate occasions: following a visit by the Evening Star and after a solar observing event in Christchurch Park. Well done all concerned! I am appearing on Ipswich Community Radio on a monthly basis on a show called "Skywatch" which is broadcast on the first Tuesday each month at 8:05am. If you are in the Ipswich area, and want to listen or mock me, tune into 105.7MHz FM or on-line at <http://www.icrfm.co.uk/>.

Finally, if you have any suggestions on the running of OASI, please get in touch with me or another Committee member. Words by Neil Morley

Total Lunar Eclipse – 2011 June 15

Paul Whiting

The lunar eclipse happened to be scheduled whilst I was on holiday on a river cruise along the Rhine. We were moored just outside Strasbourg on the French / German border. Making a good excuse to escape the Captain's Formal Meal, the eclipse was due to enter totality a few minutes after moon rise. Unfortunately it was very cloudy to the east, and it wasn't visible until some 25 minutes after the umbral phase had started. Even then it was mostly observed through thin cloud.

Fred Espenak's eclipse page URL:
sunearth.gsfc.nasa.gov/eclipse/OH/OH2007.html, describes the Danjon Scale of Lunar Eclipse Brightness as follows

Danjon Scale of Lunar Eclipse Brightness

The Moon's appearance during a total lunar eclipse can vary enormously from one eclipse to the next. Obviously, the geometry of the Moon's path through the umbra plays an important role. Not so apparent is the effect that Earth's atmosphere has on total eclipses. Although the physical mass of Earth blocks all direct sunlight from the umbra, the planet's atmosphere refracts some of the Sun's rays into the shadow. Earth's atmosphere contains varying amounts of water (clouds, mist, precipitation) and solid particles (meteoric dust, organic debris, volcanic ash). This material significantly filters and attenuates the sunlight before it is refracted into the umbra. For instance, large or frequent volcanic eruptions dumping huge quantities of ash into the atmosphere are often followed by very dark, red eclipses for several years. Extensive cloud cover along Earth's limb also tends to darken the eclipse by blocking sunlight.

The French astronomer André-Louis Danjon proposed a useful five-point scale for evaluating the visual appearance and brightness of the Moon during total lunar eclipses. L values for various luminosities are defined as follows

- L=0 Very dark eclipse. (Moon almost invisible, especially at mid-totality.)
- L=1 Dark eclipse, grey or brownish in coloration. (Details distinguishable only with difficulty.)
- L=2 Deep red or rust-coloured eclipse. (Very dark central shadow, while outer umbra is relatively bright.)

·L=3 Brick-red eclipse. (Umbral shadow usually has a bright or yellow rim.)

·L=4 Very bright copper-red or orange eclipse. (Umbral shadow has a bluish, very bright rim.)

The assignment of an L value to lunar eclipses is best done with the naked eye, binoculars, or a small telescope near the time of mid-totality. It's also useful to examine the Moon's appearance just after the beginning and just before the end of totality. The Moon is then near the edge of the shadow, providing an opportunity to assign an L value to the outer umbra. In making any evaluations, the instrumentation used and the time should both be recorded. Also note any variations in colour and brightness in different parts of the umbra, as well as the apparent sharpness of the shadow's edge. Pay attention to the visibility of lunar features within the umbra. Notes and sketches made during the eclipse are often invaluable in recalling important details, events, and impressions.

Using this scale, the following observations were made. All times UTC.

19:50 (early eclipse) L=1

20:25 (mid eclipse) L=2

20:55 (late eclipse) L=3



Picture sequence taken from 19:50 until the eclipse was virtually over.

DIARY for July

STONS	SMALL TELESCOPES OBSERVING NIGHTS AT THE OBSERVATORY STONs will restart in October. Solar and daytime planet observing by arrangement with Paddy O'Sullivan. ☎ Paddy O'Sullivan [REDACTED] ☎ Gerry Pilling [REDACTED]
Wednesdays From 8.00pm	OBSERVATORY CLUB NIGHTS Observing with the Tomline Refractor and other telescopes if skies are clear. ASTEROID OBSERVING PROJECT. ☎ Martin Cook [REDACTED] mobile [REDACTED] ☎ Roy Gooding [REDACTED] mobile [REDACTED]
Wednesday	OASI WORKSHOP Nothing Arranged At Nacton Village Hall If you are interested in running or helping at a workshop please get in touch with Mike Whybray. ☎ Mike Whybray [REDACTED]
Thursday	OBSERVATORY VISITS BY LOCAL COMMUNITY GROUPS ☎ Paul Whiting FRAS [REDACTED]
Saturday 10th September 8.00pm	NEXT COMMITTEE MEETING Venue: The Methodist Church Hall Blackhorse Lane Ipswich

Society Contact Details

Observatory tel. no. (meeting nights only): [REDACTED]

Secretary: Roy Gooding [REDACTED] (day) [REDACTED] (evening)

E-mail queries: info@oasi.org.uk

Chairman: Neil Morley [REDACTED]