

ORWELL ASTRONOMICAL

SOCIETY IPSWICH

Charity No 271313

MARCH 2001



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Events for 2001

Event	Details	Date
Astronomy Workshop	Constellation close up: Leo School science room 19:45 to 21:00	Wednesday 14 th March
North Essex Astronomical Society	They have recently opened a new observatory. A visit will be arranged	No date for this yet
BAA Winchester Weekend		6 th to 8 th April
Astronomy Workshop	PC packages for PC's School science room 19:45 to 21:00	Wednesday 11 th April
Visit the Norwich AS Observatory	Visit to be arranged	April
Visit to Cambridge AS and Braintree AS	These were proposed at the AGM	Nothing arranged yet
Astronomy Workshop	The Sun, our star School science room 19:45 to 21:00	Wednesday 9 th May
Lecture meeting	Dr Allan Chapman Lecture on Sir G.B. Airy, 7th Astronomer Royal at Orwell Park School, followed by the official re-naming ceremony of the Orwell Pack telescope	Friday 18 th May
BAA Exhibition Meeting	London Guildhall University	July Date not yet fixed
Summer Barbecue		Date to be fixed.
Summer Excursion	Space Centre Leicester	Date to be fixed for a Saturday in September
Open Weekend	Members help will be needed again this year to prepare the displays	24 th and 25 th November
Equinox Star Party	Thetford Organiser; Loughton A.S	14 th to 23 rd September
Christmas Meal		Provisional dates 12 th or 19 th December

Additional events will be added through out the year

Night Sky

All times GMT

Sun

The sun will be rising approximately between 06:50 to 05:40
The sun will be setting approximately between 17:30 to 18:30

Moon

1 st Quarter	Full Moon	3 rd Quarter	New Moon
3 rd	9 th	16 th	25 th

- Mercury** Mercury will be greatest western elongation on the 11th (27°). The planet is not well placed this month for observing from the UK.
- Venus** Venus will be setting at about 21:00 at the beginning of the month. After which it will start moving quickly towards the sun, where it will be inferior conjunction on the 30th.
- Mars** Mars will be rising at about 01:00 by the end of the month. Magnitude 1.0.
- Jupiter** Jupiter will be setting at about midnight by the end of the month. Magnitude -2.1
- Saturn** Saturn will be setting at about 23:00 by the end of the month. Magnitude 0.2
- Uranus** Uranus will be rising by about 04:30 by the end of the month. Magnitude 5.7
- Neptune** Neptune will be rising by about 03:30 by the end of the month. Magnitude 8.0

Roy Gooding

Society News

1 Next Committee Meeting

The next committee meeting will be held on Saturday 28th April 19:30 in the clubroom. This is an open meeting and any one who is interested is invited to attend.

2 Membership Subscription for 2001

Subscriptions for 2001 are due from 1st of January. If you have already paid please ignore this request.

The rates for 2001 are:

Junior & Concessionary	£10.00
Adult	£14.00
Family	£16.00

A renewal form was included with the January newsletter.

Please return this form with your 2001 subscription, so that the society membership records can be kept up to date.

Please make cheques & P.O.'s payable to the: -

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

Please return all subscriptions **with the renewal form** to

Martin Cook

Ipswich
IP4 5PZ

OCCULTATIONS DURING MARCH

The table lists stellar occultations which occur during the month under favourable circumstances. The data relates to Orwell Park Observatory, but will be similar at nearby locations.

D or R	Date & Time (UT)	Lunar Phase	Sun Alt (°)	Star Alt (°)	Min Dist (rad)	Star	Mag
D	02 Mar 23:02	0.48+	-43	22	0.54S	SZ Tau	6.5
D	04 Mar 00:05	0.60+	-44	23	0.29N	zeta Tau	3.0
R	00:59	0.60+	-43	14			
D	05 Mar 00:14	0.71+	-44	31	0.17S	ZC 1021	6.1
D	06 Mar 21:33	0.89+	-34	58	0.31N	39 Cnc	6.4
D	06 Mar 21:33	0.89+	-34	58	0.57S	38 Cnc	6.7
D	06 Mar 21:35	0.89+	-34	58	0.20N	40 Cnc	6.6
D	06 Mar 22:04	0.89+	-37	57	0.80S	ZC 1298	6.4
D	06 Mar 22:04	0.89+	-37	57	0.55S	42 Cnc	6.8
D	06 Mar 22:26	0.89+	-39	56	0.24N	ZC 1305	6.9
R	31 Mar 19:09	0.42+	-7	54	0.02S	ZC 928	5.9

Note that the large number of occultations on the evening of 6th March is associated with the Moon's passage through Praesepe, the Beehive Cluster (M44) in Cancer.

James Appleton

Group Visits to the Observatory 2001

Date	Group	Society Hosts
01 Feb 01	Kit Bird(member) + friends	Postponed due to bad weather
15 Feb 01	15th Ipswich Guides	Postponed at visitors request
01 Mar 01	W/bridge Round Table	D. Payne/ M. Cook/ N. Stubbington
08 Mar 01	15th Ipswich Guides	J. Appleton/ K. Goward/ M. Lustig
20 Mar 01	Orwell Park Radio Club	P. Whiting/ G. Coleman/ M. Whybray
29 Mar 01	Rotary Club Ipswich East	R. Gooding/ K. Goward/ P. Whiting
17 Apr 01	Brownies	P. Whiting/ M. Whybray/ M. Lustig

Any member who would like to come along and help out at a group visit will be most welcome.

Please contact Garry Coleman [redacted] for further information.

Following on from.....

.....the workshop on Wednesday 14th Feb, when 25 people attended the excellent presentation by Pete Richards on 'The eye and Observing Techniques', the small telescope group made up for the cloudy sky on Monday evening by continuing the debate about 'exit pupil'. Agreement was reached on some aspects as follows: exit pupil is the term given to the disc of light which occurs at the eye end of an eyepiece where all of the light rays from the eyepiece pass through. This is also known as the Ramsden disc. A demonstration, with a torch shon into the mirror of the 4 inch reflector, and a piece of translucent paper held in front of the eyepiece, showed where the point occurred. Either forward or backward of that point the disc was larger, but dimmer. The distance from the final lens of the eyepiece to this point is called 'eye relief'. We also agreed, and the demonstration showed, that the diameter of the disc can be calculated by dividing the focal length of the eyepiece by the focal ratio of the telescope. As larger eyepiece focal length gives lower magnification for any telescope, and from the calculation above mentioned also gives a larger diameter exit pupil, it follows that you get a larger area of light into the eye when observing at lower magnification. It may be a surprise to know that with the main telescope, a 25mm eyepiece gives an exit pupil of only 1.7mm (the focal ratio being 15) This doesn't seem very much. A good eye can take 7mm of light.

What we could not agree upon was the significance of a larger or smaller Ramsden disc for the viewing of different types of sky objects. It is generally agreed that deep sky objects are best viewed with the lowest magnification possible for the object. Is this because, with lower magnification the area of the Ramsden disk is larger, thus enabling more light to enter the eye? If it is true, then telescopes with lower 'f' ratios are better for deep sky, and our 10" refractor is best suited to planetary and lunar viewing. But we couldn't agree if this had any relation to the size of the Ramsden disc.

Neither could we agree if larger eye relief made viewing more comfortable for spectacle wearers. At the workshop many said they take their glasses off to view. But with longer eye relief, this may not be necessary. Should spectacle wearers put their eye or their spectacles at the point of the disc? Anyone with further information on these issues is invited to enter the debate, and write a small piece for the April newsletter. Contributions printed on A5 size paper to paste onto the copy are best. Ted Sampson.

OPEN WEEKEND 2001

The dates for this year's Open Weekend have been provisionally set for Saturday 24th and Sunday 25th November. Those dates allow a half decent chance of seeing Mars, Jupiter and Saturn, along with a first quarter moon.

We intend to build upon the undoubted success of last year's event by further expanding the exhibition area and including at least a couple of trade stands. It may seem a little way off, but in planning terms November is just around the corner. It would appear that yours truly has drawn the short straw again as 'Event Co-ordinator'. However, one cannot organise this alone and as with last year, **I should be VERY happy to hear from any member who would like to assist by joining a small planning team????** It would also be helpful to receive your comments on the style, contents & presentation last year – good or bad – to refine the show?

Perhaps you'd be kind enough to bend my ear on Wednesday evenings – or give me a ring on [redacted] – or e-mail me

Ken Goward



A lively throng in the exhibition area at the 2000 Open Weekend
NB The April edition of Astronomy Now will include an illustrated report on last year's event.

FREE MONEY

That got your attention didn't it! Well it's not quite 'Free', but it IS available from the PPARC (Particle Physics and Astronomy Research Council) via their Small Awards Scheme for the public understanding of science & technology. Awards of up to 10K are granted at six monthly intervals to fund projects that publicise science and encourage creativity.

**In view of that, you may agree that it's high time
Orwell AS tried for some funding.**

However, it isn't just a matter of going cap in hand to them – we'll have to present a valid, workable and coherent plan that'll fit the criteria laid down by PPARC. What is clear above all is that they will certainly not just dole out cash for amateur astro societies to buy telescopes etc – *BUT* – they will cough up the readies, including funding 'scopes, if we can offer them a project within the following parameters:

- Awards range from £250 to 10K per project.
- Projects are encouraged involving communities, schools and young people.
- Applications for jointly funded projects are welcomed.
- Must be relevant to publicising or teaching PPARC science areas, namely: particle physics; space, ionospheric, planetary and solar science; astrophysics and cosmology.

The OASI committee will consider making a bid for funding if we can devise an appropriate project.

We are open minded on what to bid for and, for instance, thought is being given to applying for presentation equipment – computer projector/display boards etc - for Open Weekends, Group visits and Lecture meetings. Another meritorious idea is to obtain funding for a complete overhaul of the 10" Refractor and Transit Instrument.

**WHAT WE REALLY NEED IS SOME FEEDBACK FROM THE
GENERAL MEMBERSHIP.**

- What do YOU feel we should go for?
- How should we structure a bid?
- Do YOU want to devise a suitable society/community based project?
- We would also like to hear from any members who have previous experience of applying for public funding – and – from any member who may have legal/accounts experience and feels they could help us?

Please contact me, or any member of the committee if you have an opinion or you can offer help.

Ken Goward Treasurer

Tel [REDACTED]

E mail [REDACTED]

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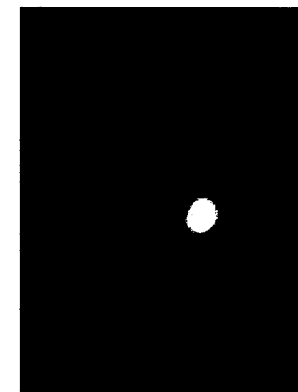
RESULTS FROM ASTROPHOTOGRAPHY PRACTICAL SESSION

On Wednesday 10th January, Neil Morley led the discussion during the Astrophotography Workshop. On the following Monday, several members of OASI participated in a practical follow-up session by using various SLR cameras, digital cameras and video recorders to take images of the planets.

OASI owns two Zenit camera bodies which are available for use by members within the observatory (and at other locations by prior arrangement with the committee). The camera bodies are of the old fashioned, mechanical variety, and are therefore ideal for long exposure astrophotography (no batteries to run down!) The society has fitting rings to enable attachment of the camera bodies to the 10" refracting telescope.

Together with assistance from several people present in the dome, I used one of OASI's camera bodies to take photos of Venus and Jupiter through the 10" refractor.

At approximately 20:00 UT, Venus was close to setting at some 5° above the horizon, scintillating strongly and exhibiting bright flashes of colour. If I were to set up the camera firmly on a tripod and ensure proper alignment with the telescope, Venus would have set before I was ready to take a photo! Therefore, I simply held the camera by hand very close to the telescope eyepiece (afocal coupling) and took several photographs with a variety of exposure times less than one second. Conditions were thus far from ideal, but nevertheless, I was able to obtain the photograph shown on the right which clearly exhibits the phase of the planet (52°).



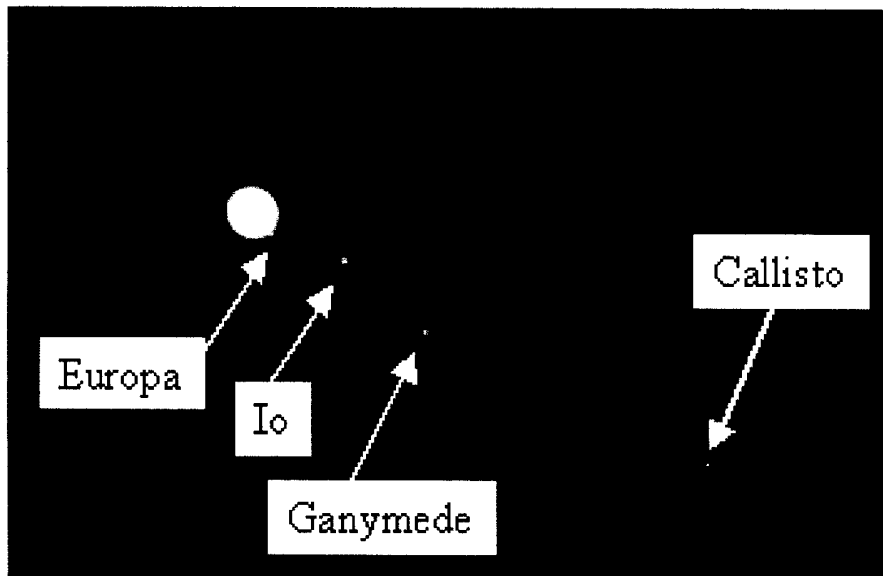
Some half hour later, we turned our attention to Jupiter. Europa had just completed a transit of the planet and was emerging at the western limb (emersion at 20:19 UT). The remaining three Galileans were visible lined up further to the West.

I took several photographs of Jupiter. Through trial and error, I found it possible to capture detail on the main cloud tops (the North and South equatorial belts)

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using the eyepiece projection method of coupling camera to telescope, or to capture Jupiter together with the Galilean satellites via the prime focus or afocal methods. In all cases, exposure times up to a few seconds were suitable. However, I did not manage to find a coupling method and exposure time that could capture both detail on the cloud tops and the Galilean satellites.

The following photograph shows the four Galilean satellites. Note Europa very close to the western limb of the planet.



Altogether, I took several photographs, using eyepiece projection, prime focus and afocal methods and with a variety of exposure times. I used 400 ASA print film, which was subsequently processed commercially in the usual way.

The two images shown above represent the best that I obtained during the evening. I reproduced them here by scanning the photo prints into the computer, resizing and printing, without any additional touching up.

Hopefully, other people who participated in the practical photography session have had their films developed now and will be able to put their results on display!

James Appleton

Telescope Training

As a result of the initiative in May last year, when twelve members, together with some of our experienced telescope operators, attended the first training session, we now have three additional experienced operators. All are in possession of their Operators Certificate, which was presented with due ceremony by our chairman Dave Payne. Several more of the original twelve, plus others who have already been around a long time, are poised to take the test, and swell the ranks of those able to handle the Tomlin Refractor (the new name for our historic telescope: watch for further news about the naming ceremony). Not only is this good for those qualified, but it also is very helpful to the society in making more people available to Garry to be hosts to visiting groups - a crucial aspect of the the society's job to spread the word about astronomy. To consolidate the position of those on the brink and take the last step, only requires them to either have a final briefing session with Garry to hone up to the level for the test, or to ask Dave or Martin directly for a date on which to take it.

Things seem quite busy at the society these days, and Wednesdays seem to be buzzing with activity. To find time for this last step may mean either getting early to the observatory, or staying late, all by arrangement with the above mentioned. So go for it folks. Watch this space for information on further training. Ted Sampson.

IMPORTANT REMINDER

Members, please ensure that you enter your name and the names of any visitors you may bring to the observatory, in the **SIGN IN** book . This should be done on arrival at the observatory. The book is kept on the table at the Belvedere level. This is important for insurance purposes. The **SIGN IN** book is the only record of who is in the observatory. In an emergency this book is used to hold a roll call. If you are in the observatory, but your name is not entered in the **SIGN IN** book , nobody will risk their life to look for you.

Members are also asked to wear their membership cards at all times when in the observatory, as a form of identification. This is necessary for security and also helps new members to get to know everyone. Membership card holders are available from Ken Goward, our Treasurer.

Members please ensure you always shut the outside entrance door properly (the black door with the combination lock) when **entering and leaving** the observatory. The combination is printed on the back of your membership card. This is important as both the Society and the school, have a responsibility to ensure the safety of the children, at all times.

Thank you, Garry Coleman

Observing Programme For March

Dates	Observing Director	Activities
Monday 19th from 7.30pm	T Sampson G Coleman	Small Telescope Night
Tuesday 20th from 7.30pm	G Coleman	Group Visits
Wednesdays 7th 14th 21st 28th from 8.00pm	M Cook D Payne	Nebular & Faint Objects
Thursday 1st 8th 29th from 7.30pm	G Coleman	Group Visits
Fridays from 7.30pm		Miscellaneous

All members are welcome on any night, but on nights other than Wednesday please check with the appropriate director that the observatory will be open.

Special Events

1. COMMITTEE MEETING

The next committee meeting is to be held on Saturday 28th of April at 7.30pm in the club room at the observatory. All members are welcome to attend.

2. LECTURE MEETING

A lecture is to be given at Orwell Park School by Dr Allan Chapman on Sir G.B.Airy, 7th Astronomer Royal. Followed by the official re-naming ceremony of the Orwell Park Telescope.

3. ASTRONOMY WORKSHOP

The next astronomy workshop is to be held on Wednesday 14th March at 7.30pm. The subject is "Constellation close-up: Leo" James Appleton and Les Lamb are the main presenters.

2001 COMMITTEE

		Home Phone	Work Phone
CHAIRMAN	D Payne		
SECRETARY & WORK PARTY ORGANISER	R Gooding		
TREASURER & PUBLICITY	M Cook		
MECHANICS	E Sims		
NEWSLETTER CO-ORDINATOR	T Sampson		
BEGINNERS MEETING CO-ORD & VISIT CO-ORD	G Coleman		
EQUIPMENT CURATOR	J Walsh		
LIBRARIAN	J Appleton		
CO-OPTED MEMBER			
LECTURE CO-ORDINATOR & DARK SKIES	P Richards		
JOURNAL ARTICLES TO CORRESPONDENCE ADDRESS	E Sims	Ipswich Suffolk IP1 4HA	
	R Gooding	OASI Secretary	
		Ipswich Suffolk IP1 6AE	
MEMBERSHIP	M. Cook	Ipswich IP4 5PZ	

Society Contact Details

		Home Phone	Work Phone
Chairman	D Payne		
Secretary	R Gooding		
Contact details for the full committee are inside the back page.			

e-mail queries: ipswich@ast.cam.ac.uk
 WWW address: <http://www.ast.cam.ac.uk/~ipswich/>