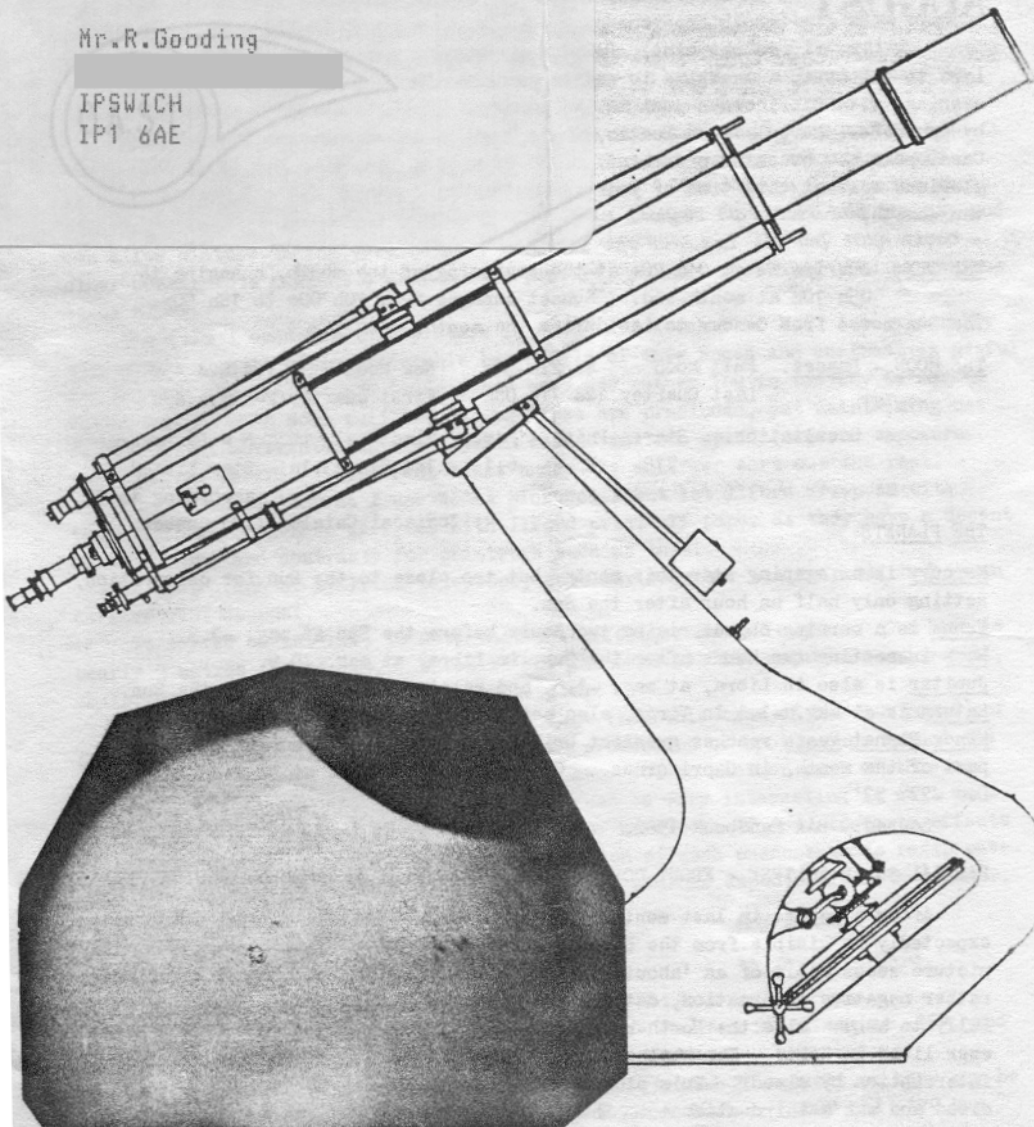


1982  
AUGUST

Your submissions of items for the Journal will be welcome.

Mr. R. Gooding

IPSWICH  
IP1 6AE

The Orwell Park Observatory 10-inch Astronomical Telescope at Necton near Ipswich

## THE NIGHT SKY AS SEEN FROM ORWELL PARK IN

**AUGUST** THE unmistakable cross of Cygnus dominates the zenith this month, surrounded by Draco and Cepheus to the north; Pegasus to the east; Delphinus, Sagitta and Aquila to the south; and Lyra to the west. Aquarius is well above the south-eastern horizon by late evening, with Capricornus just to the south of it. The western sky is filled by Ophiuchus, Hercules and Bootes, while over to the north-east Perseus and Cassiopeia are becoming prominent. And of course the Milky Way is at its glorious best at this time of year, sweeping right across the sky through the zenith.

**THE SUN** Sunrise is at 04h 20m at the beginning of the month, changing to 05h 10m at month-end. Sunset changes from 20h 00m to 18h 50m. The Sun moves from Cancer to Leo during the month.

**THE MOON - Phases.**

Full Moon	4d 22h 34m	New Moon	19d 02h 45m
Last Quarter	12d 11h 08m	First Quarter	26d 09h 49m

Occultation.	Star	Phase	Mag.	Time	R = Reappearance
	718	R	6.1	14d 01h 43.1m	Star listed according to Zodiacal Catalog (ZC) number.

### THE PLANETS

**Mercury** is an evening star this month, but too close to the Sun for observation, setting only half an hour after the Sun.

**Venus** is a morning object rising two hours before the Sun at mag. -3.3.

**Mars** is setting two hours after the Sun, in Libra, at mag. +0.9.

**Jupiter** is also in Libra, at mag. -1.5, and setting two hours after the Sun.

**Saturn** is at mag. +1.1 in Virgo, also setting about two hours after the Sun.

**Minor Planet Vesta** reaches greatest brilliance of mag. +6.5 during the early part of the month, in Capricornus. On the 9th it will be at RA 21h 28m, Dec -22° 23'.

Source: BAA Handbook 1982. All times are U. T. (= B. S. T. minus 1 hour).

### PARTIAL SOLAR ECLIPSE - FRONT COVER PAGE INSERT (From my home in IPSWICH (!))

After a report in last month's Journal that the partial eclipse would not expectedly be visible from the U. K. other than in the north-western parts, this picture seems a bit of an 'about-face'. In excusing the passing of the earlier rather negative information, data on the eclipse was only rather hazy and not fully to hand: also the North-West can be a big place, especially if you have ever lived in Kent! The weather at the time was also both hazy and including interruption by cloud. This picture was taken at 1918UT through a break in cloud and was a third attempt. Shortly afterward the Sun was obscured entirely for the remaining part of the eclipse and the day, 20th July.

The picture was taken in what has become the usual way for me to take solar pictures - with my 60 mm Prinz refractor, aperture reduced to 48 mm by a deep-red

glass filter before the o.g. coupled with a deep purple Perspex filter also at the front of the telescope. These filters together provide a visible waveband cut-off of about 99.5%. The remaining required 'dilution' is taken care of by the use of a home-made Barlow lens increasing the focal length of F11.5 effectively to about F50. This gives a solar disk image of about 22 mm diameter, in one of my Zenith SLR (single-lens-reflex) cameras almost indispensable for aiming in such work. This is the film-plane and therefore negative image diameter.

The camera has an extension tube fitted onto it and into a shrouding tube made from a piece of PVC rainwater pipe. This pipe is fitted internally with a simple black-painted piece of cardboard. A piece of flexible rubber, also black, joins the front of the shroud tube to the Barlow. This allows focussing.

The camera is fixed and unfixed very quickly to and from a 'camera bar' in turn quickly clampable to the main body of the telescope.

In this case, as is now quite usual, I use this telescope, bar and camera assembly without its mounting, relying on a window ledge and a suitable chair at opposite ends of the set-up to steady the whole. This saves taking the whole mounting about the house and trying to fit it in amongst furniture and things, and can allow picture-taking very quickly at different times of the day when cloud or other commitments prevent a near-midday picture, or when something like an eclipse comes along.

The film I used for this picture is a 125 ASA Kodak Plus X. A considerably slower emulsion is often preferable but a film of this speed and contrast is useful for getting the Sun through quite dense haze and rather low in the sky to make a fuller record when more suitable taking times are precluded, yet maintaining use of the better movement-stopping 1/500th second maximum speed (minimum exposure time) of the camera. Different times under the enlarger sort out the rest.

For film development I use Kodak Microdol-X but let Ilford creep in with their Ilfocin. I then carry on with Ilford print-off paper as they have a decent Grade 5, nice and contrasty for printwork such as this.

A photograph of my Prinz telescope, some may remember seeing published in an earlier OASI Journal.

It may be of interest to note that the effective focal length of the lens is nearly 3 metres (ten feet). Which is why the hand-holding requires window sill, chair, doorpost, children's swing, or similar!

The eclipse picture was in fact the last (for this time of the Sun round) of a whole series showing a veritable carnival procession of spot groups around the Sun's disk. Something of this, I hope to show you in another part of this and perhaps later Journals. Study of sunspots can be very interesting as well as a photographic challenge, and can lead to better knowledge of down-to-earth effects of solar activity - possibly even the prediction of such phenomena as radio wave-band interference, Aurorae and some of the more awesome aspects of Earth weather.

Roy Adams.

METEOR NOTES for AUGUST 1982

by David Barnard

This month we again have SEVEN showers active:

- 1) Capricornids Maxima occurring last month. Radiant 20hrs 44mins -15°, and 21hrs 00mins -15°. Bright meteors and multiple radiant.
- 2) Delta Aquarids Active until August 15th. Around 20 meteors an hour may be seen at the beginning of the month. Radiant 22hrs 36mins. 00° and -17° has telescopic activity. Rich in faint meteors.
- 3) Alpha Capricornids reach maximum on August 2nd and are active until August

25th. ZHR = 8. Radiant 20hrs 36mins -10°. Rich in yellow fireballs.

4) Iota Aquarids reach maximum on August 6th, also with ZHR of 8. Radiant 22hrs 04mins -06°. Rich in faint meteors.

5) Perseids Reach their maxima on August 12.8. ZHR of 100+. Radiant 03hrs 04mins +58°. Bright, trained meteors. Activity increasing as Comet Swift-Tuttle reaches perihelion. Active until August 20th.

6) Kappa Cygnids are active from August 17th to 26th; maximum on August 20th, with ZHR of 5. Radiant 19hrs 20mins +55°. Flaring fireballs.

7) Alpha Aurigids Reach first maxima on August 28th. Active throughout the month. ZHR of 12. Radiant 04hrs 56mins +43° and 04hrs 52mins +41°. Several maxima, bright meteors.

As you will see from the Programme on the back page of your Journal, there will be a Meteor Watch on August 14th (Saturday). Meet at the 'Ship' as usual, 9 pm, even if it seems likely there may not be much visible.

ARTICLES TO READ - "CATCH A HUNDRED THOUSAND STARS" - New Scientist July 1st.

An account of the Hipparcos (High Precision Parallax Collecting Satellite) Space Telescope Project, due to be launched in 1986, to measure the positions of 100 000 stars with more accuracy than has been possible from Earth. The article also describes how the data from the Project will be used in studies ranging from galactic dynamics to the age of the Universe.

'The Unexplained' Number 94 (out in late July) carries an article about the effects of the Sunspot Cycle upon Man and in other matters such as crop harvests or short-period growth-rate. A simple analysis (in that it is easy enough to read) is made of the Sunspot Cycle, which is not just an 11.1-year one but involves other superimposed or involved cycles as well. The possibility of gravitational influence of major planets at certain angles on the incidence of solar spot activity and in turn, results of that, is also briefly treated.

COMET AUSTEN - SOMETHING TO LOOK FOR AT THE END OF THE MONTH.

Patrick Moore's latest 'Sky at Night' programme mentioned a cometary newcomer approaching sky areas visible to us, through Lepus and Gemini from an area too far south for us to see at the present. This will expectedly be a naked-eye comet for us at Magnitude 4. It is too early yet to tell what sort of tail it will have.

THE 'TENTH' PLANET

The 'Sky at Night' programme also mentioned something else which is and has been subject matter of considerable speculation - what is the invisible body still at large, that gives rise to the perturbations of Pluto?

Patrick Moore outlined that the finding of the planet Neptune did not fully deal with the evident perturbations, and that there may be something big lurking out there somewhere. Maybe a dead star, at 10 000 000 000 miles, or even a sort of black hole, at 100 000 000 000 miles or so. Makes one think, doesn't it?!

A FEW WORDS IN THE RIGHT PLACES

by Roy Adams

One small feature of the OASI Journal in a part of its earlier years was the introduction of a Members' Advertisements 'corner'. This has proven very useful in the past to many members - both in appropriately disposing of items and in the obtaining, and in this small space, I thought it might be a good idea to mention.

We might from time to time extend the facility to others who may have helped us and indeed still are - such as Mr. Michael Maunder with his ability to get a lot

of normally out-of-way photographic materials. I am still in contact with Michael, who has proven very helpful on matters of film and processing methods and suitability, to say nothing of data on films, filters and so on, and even if your interest is more in other fields regarding photography, than astronomy, I would strongly recommend his friendly facilities. Many members will remember his very interesting demonstration of fast in-cassette neg-processing, and getting more speed out of a film than usual! Also his separate-camera-behind-the-eyepiece picture-taking technique.

Whether you favour such techniques as this with your favourite camera/s or subject/s or not, I can assure you he is a very useful contact for getting those older-style films for older-style (and still patently useful!) cameras like the folding ones. I now even know where I can get some film for one camera 'antique' I have which proudly displays a plate inside the back which says, 'Use A116 film'. Its spool takes 70 mm-wide film - which Michael can get. If you have difficulty getting such films as 32ASA Kodak Panatomic X (black and white) or 120 films, 4" x 5" cut film and very slow films such as Lith nominally rated at 6ASA, contact

Mr. Michael Maunder, [redacted], Pyrford, Woking, Surrey GU22 8QY.

AND: He can positively get positive 35mm film as well. Prices are OK too.

## SOCIETY NEWS

### SUFFOLK CARAVAN CLUB - ANNUAL RALLY AT ORWELL PARK, AUGUST BANK-HOLIDAY WEEKEND

During the August Bank Holiday Weekend from Friday 27th to Tuesday 31st, the Suffolk Caravan Club will be coming to Orwell Park again for their Annual Rally.

This year, as we have done in past years, we will be opening up the Observatory. If you can help on any of these nights please do so as things sometimes get a bit hectic and our members have to 'retire' to their bar to quench thirsty throats.

### MONTHLY JOURNAL

Wasn't last month's Journal a pleasure to read!! Our thanks go to Roy Adams for producing it but we still need your help in 'filling up' future Journals with Astro. news, jokes, pictures etc. All items for the Journal will be appreciated and should be sent A.S.A.P. to:

R. M. Cheesman, [redacted], West Hanningfield, Chelmsford, Essex CM2 8LQ.

### SEPTEMBER'S DEADLINE

All items for the Journal should be sent to the above address A.S.A.P. with Friday 13th being the deadline because of holidays etc.

HERSTMONCEUX '82 There are still some tickets left for the F.A.S. Convention at Herstmonceux on Saturday, 2nd October. Tickets are £2.50 each plus a share of the car transport costs. Tickets from Roy Gooding or David Payne. Full details are posted in the Club Room.

SCOTLAND TRIP We are promised an extensive report on this, to include in the September Journal. It is understood that the report may include something about the finding of other airborne or skyborne objects than stars - in fact rare birds ...

### VARIABLE STAR OBSERVATIONS

by  Nicholls

Shown below is the field of the semi-regular variable star W Cygni, together with comparison star magnitudes. This star is quite close to the fourth magnitude P Cygni and so is easily located, provided a chart showing P Cygni is available, such as Norton's Star Atlas.

The range of W Cygni is from about magnitude 5.0 to 7.6 which enables it to be followed throughout its cycle using binoculars.

The light curve has been featured in previous journals and is quite interesting with an observed period rather longer than the 130 days quoted in books. Also observed in the past has been a ripple with a period of about 20 days.

For anyone wishing to start observing this star, now is a good time to start. Cygnus is high in the south-east now and will be easily visible throughout the remainder of the year.

Fl 63 = 4.88  
E = 5.09  
D = 5.38  
F = 5.54  
A = 6.12  
P = 6.6  
K = 6.82  
S = 7.2  
L = 7.52



Fl 63

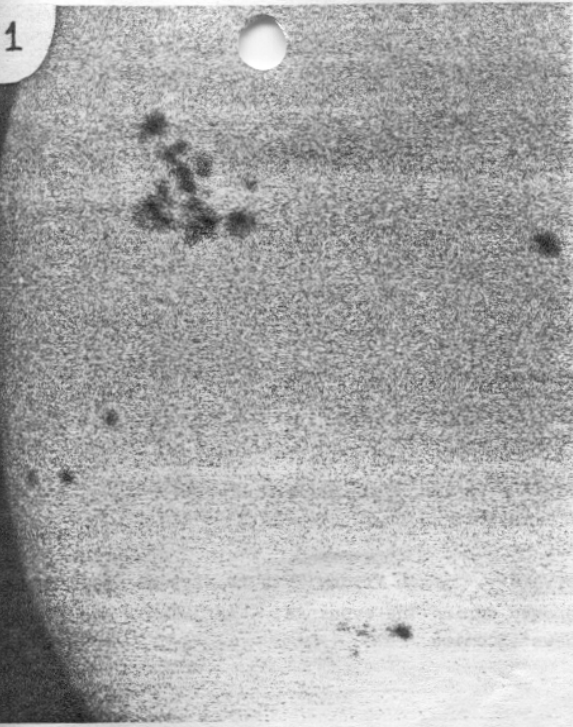
Fl 68

● E  
Fl 75

ONE MORE EMPTY-JOKE (?) SPACE-FILLER: 'What did the spinning, spent liquid-fuel rocket tank say to a passing flying saucer?' 'I'dno 'xunp ITe 'I,I,



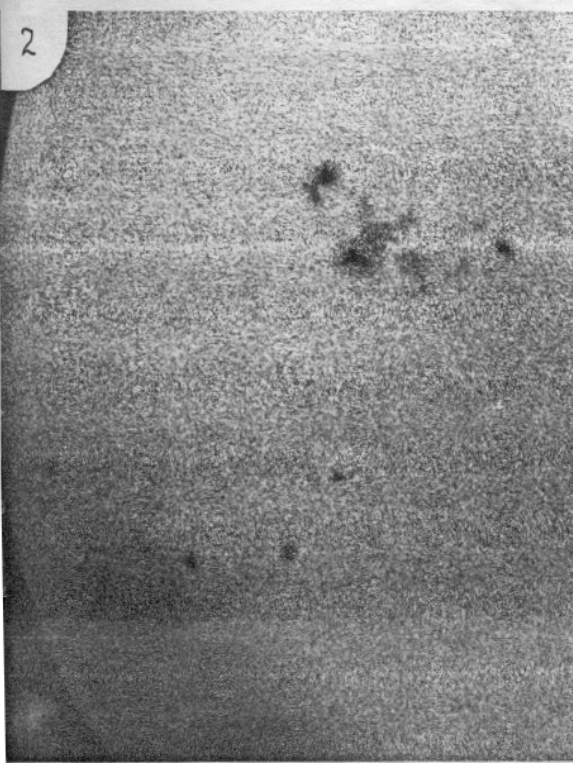
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THE DEVELOPMENT, CHANGE AND DECLINE of sunspots makes fascinating study and can have benefit from the fact that initial observing work doesn't need to be done in the small hours. The photos on this page and the next show the 'march' across the Sun's disk, of July's succession of spots. The three pictures were taken with approximately two and three days between them, and at least four groups can be traced back to the previous rotation of the Sun's photosphere on my series of pictures which were taken with the same 'rig' as the 'eclipse' one on the front cover of this Journal. The groups can be seen moved further on, in the original photo of the eclipse, even if they are hard to see in this reproduction. As seeable from the taking times listed below, transit occurs from left to right of the pictures and visible disk as seen approximate Sun North at top.

- |    |                     |       |
|----|---------------------|-------|
| 1) | 1982 July 11 1820UT | Roy   |
| 2) | 13 1112UT           | Adams |
| 3) | 16 1220UT           |       |

2



ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

PROGRAMME FOR 1982 AUGUST

at the Observatory, Orwell Park School, Nacton, near Ipswich.

TUESDAYS from 8 pm General Observations Section

Directors: Mr. N. Gage and Mr. R. Hebbs. 10th and 24th

WEDNESDAYS from 8 pm Nebular and Faint Objects Section

Directors: Mr. D. Payne and Mr. M. Cook. 4th, 11th, 18th and 25th

FRIDAYS from 8 pm Variable Stars Section

Directors: Mr. M. Nicholls [redacted] 6th, 13th, 20th and 27th

SUNDAYS from 8 pm General Observations Section

Directors: Mr. M. Barriskill and Mr. R. Adams. 8th and 22nd

SATURDAY, August 14th: Meteor Watch, meeting at Levington Ship, 9 pm, whatever the weather. Contact Mr. D. Barnard, on Ipswich [redacted] for any further information.

AUGUST BANK HOLIDAY WEEKEND at the Observatory. From Friday 27th to Tuesday 31st, inclusive, the Observatory will be opened during the evenings. ASSISTANTS AND ASSISTANCE REQUIRED - See 'Society News' Section.

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