

Journal of the
ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

August, 1976.

Editor: Mr. J. Deans,
[REDACTED],
CAPEL ST. MARY.
Ipswich.
Phone GT. WENHAM [REDACTED]

Solar Section.

The Sun will move through the constellations of Cancer and Leo this month.

Heliographic Co-ordinates as at noon U.T.

	P	Bo	Lo		P	Bo	Lo
August 5th	+12.5°	+6.1°	163.6°	August 20th	+17.7°	+6.9°	325.3°
" 10th	+14.3°	+6.4°	97.5°	" 25th	+19.2°	+7.1°	259.2°
" 15th	+16.1°	+6.7°	31.4°	" 30th	+20.6°	+7.2°	193.2°

Synodic Rotation No 1644 commence July 21.15d
 " " No 1645 commence Aug. 17.37d

MERCURY. Will reach greatest Eastern elongation (27°) on the 26th at 10hrs U.T. Magnitude +0.5, and the planet will not attain much altitude and will be setting about 40mins or so after sunset.

VENUS will also be in the same part of the sky as Mercury though a much brighter object at mag -3.3. Venus will be setting the same time after sunset as Mercury.

MARS at magnitude +1.9 is not an impressive sight at the moment, it too sets at the same time as Venus and Mercury. On the evening of the 26th - 27th a thin crescent Moon will be seen to the west and east of the planets respectively.

JUPITER now rises around 23hrs U.T. (midnight B.S.T.) in the Eastern sky, mag -2.0. The Moon will be seen near Jupiter on the 18th.

SATURN is a morning object rising two hours or so before the Sun by the end of the month. It is unlikely that you will see the planet at the earlier part of the month, due to the close proximity and glare of the Sun.

LUNAR SECTION

Moon phases, Lunation 663/664

First quarter	August 2nd	22hrs 07m U.T.
Full Moon	" 9th	23hrs 44m U.T.
Last quarter	" 18th	00hrs 13m U.T.
New Moon	" 25th	11hrs 01m U.T.

Lunar occultations.

August 1st	ZC 1925	Mag 1.2	D	15hrs 40.6m U.T.
" 1st	ZC 1925	" 1.2	R	16hrs 53.5m U.T.
" 17th	ZC 422	" 5.5	R	03hrs 04.9m U.T.
" 31st	ZC 2322*	" 4.3	D	19hrs 42.0m U.T.

* denotes star is a double.

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)
 PROGRAMME FOR AUGUST.

at
 Orwell Park Observatory.

WEDNESDAYS from 7p.m. Solar, Lunar & Planetary Section.

Director Mr. R.M. Cheesman, [redacted], Ipswich.

4th August
 11th "
 18th "
 25 "
 1st September

THURSDAYS from 8.30p.m. Double Stars Section

Director Mr. D. Bearcroft, [redacted], Ipswich, Tel [redacted]

12th August
 26th "

METEOR SECTION. Director Mr. D. Barnard, [redacted], Ipswich Tel. [redacted]

PERSEIDS METEOR COUNT. Saturday 7th August

KAPPA CYGNIDS METEOR COUNT, FRIDAY 20th August.

Meet outside the Golf Hotel, Foxhall Road, Ipswich for these two counts at 10p.m. irrespective of weather conditions.

METEOR NOTES.

by Mr. D. Barnard, Director Meteor Section.

The Meteor Count on July 24th went extremely well, with eight people attending. From the watch start at 21hrs 50m U.T. until the end at 23hrs 39m U.T. - a duration of 1 hour 49 minutes - a total of 34 meteors were observed of all magnitudes, of which 4 meteors were Delta Aquarids, and the remaining 30 were sporadic. This was the fourth clear meteor watch in succession.

THIS MONTH sees the last SHOWER meteor counts until late October.

Active streams this month are.

1. Iota Aquarids
2. Perseids
3. Kappa Cygnids.

Other streams fairly active still includes the Capricornids, the Delta Aquarids and the Alpha Capricornids.

1. THE IOTA AQUARIDS.

ZHR of 6, Max on August 6th. Moonlight interferes this month. Rather unfavourable. Normal limits July 15th to August 25th.

2. THE PERSEIDS.

A rich shower, ZHR of 68. Max on August 12th. Bright meteors with fine trains, usually white and flaring. This stream is associated with the comet 1862 III. Radiant RA 046° Dec +58°. There will be a meteor count to observe this shower on SATURDAY AUGUST 7th. Moonlight unfortunately interferes this year.

3. THE KAPPA CYGNIDS.

Flaring fireballs! ZHR 4 Max on August 20th/21st. Radiant RA 290° Dec +55°. There will be a METEOR COUNT ON FRIDAY August 20th to observe this favourable shower, also it will be well worth doing a photographic watch.

MINOR STREAMS.

There are two minor streams this month with the maxima occurring on the same day, August 14th.

1. THE ZETA DRACONIDS

Normal limits August 14th - 16th

2. THE THETA CYGNIDS

Normal limits August 14th to 17th.

Both these minor showers have a ZHR of about 1 or 2.

DATES TO REMEMBER.

PERSEIDS METEOR COUNT, Saturday August 7th

KAPPA CYGNIDS COUNT, FRIDAY August 20th.

For both these counts meet outside the Golf Hotel, Foxhall Road, Ipswich at 10p.m. irrespective of weather conditions.

OPEN DAY.

Just another little reminder that our Open Day will be held on Saturday 18th September. A poster advertising this event will be in next month's Journal which should be published a little earlier than normal as the main typist, distributor and printer will be on holiday during the last two weeks in August.

We still have a lot of DRAW TICKETS to sell and anybody wishing to have some more to sell please contact Mr. R.M. Cheesman, [redacted], Ipswich before he goes on holiday on Friday 20th August. All monies and counterfoil tickets should be returned to Mr. Cheesman by Saturday 11th September.

WORK AT THE OBSERVATORY.

Although the work at the observatory is going quite well more members are still requested to help. We are working in the Observatory every Wednesday evening and every other Thursday evening as published in our monthly programme. Also we will be working at the observatory every SUNDAY MORNING from 10am until noon.

Director, Mr. David Miles,
[REDACTED],
IPSWICH.

The first meeting of the mirror and telescope making section which took place on the 7th July at the Observatory was attended by an enthusiastic group of members. Various points were discussed and individual projects were decided upon, these range from a 4" mirror to a 10" mirror and the glass blanks for these projects have been allocated. There are still a few blanks available if any other members should decide to make a mirror.

Several members now have a copy of 'Handbook for Telescope Making' and there is also a copy in the Society's Library for anyone wishing to find out more about the subject.

As Director of the group I have took it upon myself to rummage through likely places to find suitable items of equipment which may be utilised for equatorial mounts and I will attempt to assemble such mounts as are required by members.

It was decided that as the Society was formed to promote the Sciences, Astronomy in particular, then any mirror which was successfully completed would become the property of the constructor, this will also apply to any mount etc., that I am able to supply.

And now for news of my mirror, I have reached the final stage, that of polishing using the pitch lap. I have used the Foucault tester donated to the Society by Mr. Barrell and found it most satisfactory for finding the focal length of the mirror. My mirror has turned out to be 50 $\frac{1}{2}$ " which is half an inch longer than I had originally intended although for some time now I had been under the misapprehension that it was 48", so I am very pleased it is closer than I thought to the design I planned.

Any member who needs advise or who simply wishes to spend an hour or so talking about telescopes is welcome to call and see me at the above address.

In future copies of the Journal I hope to give reports on member's progress with their own mirrors, with the grinding and eventually unveiling dates for those important instruments, meanwhile watch out for next month's Journal in which I shall be giving details of an exciting new project which I am undertaking.

D. MILES.

COMMITTEE MEETING.

On Friday 6th August at 8pm. at the Observatory we are holding our Committee Meeting to which all members are invited. This meeting will mainly finalise the arrangements for the Open Day. Please come along.

ASTRONOMICAL SLIDES.

At the Open Day to propose having slide shows instead of a film show and any members who have any slides of astronomical interest and would lend them to us for the Open Day should contact Mr. Cheesman, [REDACTED], Ipswich as soon as possible please so that the illustrated talks can be prepared by the speakers.

NEW TELESCOPE.

One of our members has donated the wood to build the new portable observatory to house the N.C.C. Barrell telescope. Mr. D. Miles will be looking after the building of the observatory and we hope to set the telescope up within the next two weeks.

WANTED TO HIRE

We have two water drains leading down from the observatory which are blocked up and we wondered if any member has, or has access to, a DYNOROD or similar equipment to clear these drains. If you can help please contact Mr. R.M. Cheesman or Mr. D. Barnard.

Mr. D. Aguirregoicoa,
Mr. D. Barnard,
Mr. M. Barriskill,
Mr. P. Baxter,
Mr. D. Bearcroft,
Mr. B.H. Belle,
Mr. A. Betts,
Mr. C. Boot,
Mr. D.J. Brown,
Mr. N.C.C. Barrell, F.R.N.S.
Mr. G.J. Bumstead,
Mr. F.D. Byers, F.R.N.S.
Mr. M. Cahill,
Mr. D. Catchpole
Mr. R. Chalmers
Mr. R.M. Cheesman,
Mr. T. Cobbold,
Mr. K. Cocks,
Mr. G. Collier,
Mr. M. Cook,
Mr. K.I. Cooke,
Mr. K. Cooper,
Mr. C. Cornelius,
Mr. S.E.P. Craddock,
Mr. S. Davey,
Mr. T. Day,
Mr. J. Deans,
Mr. K. Dye,
Mr. J.R. Downey,
Mr. J. Easty,
Mr. P. Evans,
Mr. R. Fiske,
Mr. J.F. Fleming,
Mr. R. FOGG,
Mr. Fortescue,
Mr. H. Gage,
Mr. R. Gooding,
Mr. D. Green,
Mr. K. Harris,
Mr. S.G. Harvey,
Mr. R. Hazelwood,
Mr. W. Haxell,
Mr. R. Hayward,
Mr. R. Walker,

Mr. M. Howe,
Mr. A. Jones
Mr. J. Kersey,
Mr. C. King
Mr. M. Laurie,
Mr. D. Ling,
Mrs. P. Long,
Mr. R.S. Manning,
Dr. J. Mason,
Mr. M.A. Mills,
Mr. C. Nunford, F.R.S.
Mr. W. Last,
Mr. & Mrs. R. Markham,
Mr. R. Malster,
Mr. J. Merritt,
Mr. D. Miles,
Miss S. Miller,
Mr. J. Posner,
Mr. A.R.J. Paine,
Mr. C. Radley,
Mrs. D.M. Randle,
Mr. M.J. Regan,
Mrs. N. Salmon,
Mr. R. Sanders,
Mr. I. Scaramanga,
Mr. N.C. Shute,
Mr. M. Siggers,
Mr. A.J. Smith,
Mr. W. Smith,
Mr. R. Steed,
Mr. F.J. Steward,
Mr. A. Stewart,
Mr. M. Stollery,
Mr. M. Stow,
Mr. I. Swindells,
Mr. J. Taylor,
Mr. A. Thompson,
Mr. T. Voss,
Mr. D. Wilkinson,
Mr. V. Wilkes,
Mr. D. Woods,
Mr. C. Woolf,
Mr. N. Wright,
Mr. I. Borrett,
Me. S. Flory,

CHRONOLOGICAL LIST OF IMPORTANT ASTRONOMICAL DISCOVERIES AND EVENTS (cont.)

- ca. 1680 Newton combines Kepler's and Galileo's findings, together with observations of moon and comets, into the fundamental laws of mechanics and gravitation. He also studies light, its colour and spectrum. By this time, accurate pendulum clocks are in use.
- 1690 Halley notes the periodic reports of a large comet every seventy years and concludes they refer to one object moving in a long, thin ellipse around the sun.
- 1755 Kant postulates that the sun and planets were formed by the coagulation of a cloud of gas like the spiral nebulas.
- 17 80 William Herschel builds large telescopes, discovers the planet Uranus, and explains the Milky Way as a flat disk of stars around the sun.
- 1700-1800 Mathematical astronomy flourishes, involving many Europeans - Cassini, Bradley, d'Alembert, Laplace, Lagrange, and others - who apply Newton's mechanics to celestial motions with remarkable precision.
- 1814 Joseph Fraunhofer discovered dark lines in the sun's spectrum. This paved the way for the invention of spectroscopy.
- 1822 Sir William Herschel died.
- 1826 Johann Bode died. He is best known for popularising a mathematical relationship of planetary distances from the sun.
- 1830 Friedrich Bessel determined the distance of the star 61 Cygni.
- 1834 Sir John Herschel, Sir William Herschel's son, went to Cape Town and produced the first extensive catalogue of stars in the southern hemisphere.
- 1840 The first astronomical photograph (of the moon) obtained by J.W. Draper. By 1975 photography is well established for accurate observations with telescopes ranging up to 40 inches in aperture, photographing stars 100,000 times fainter than those visible to the naked eye.
- 1843 Doppler explains the effect of motion on the spectrum of a light source.
- 1845 William Parsons, 3rd Earl of Rosse, discovered the spiral shape of galaxies.
- 1846 Neptune discovered.
- 1848 William Parsons gave the remnants of the Chinese 'Super Nova' of 1054 the name of Crab Nebula.
- 1850 William Bond became the first person to photograph a star.
- 1851 Pietro Secchi was one of the first to photograph the sun during an eclipse.
- 1854 Gustav Kirchhoff started development of Fraunhofer's discoveries and invented the spectroscope.
- 1856 Sir William Huggins used a spectroscope to analyse star-light.
- 1857 George Bond was first to photograph the double star Mizar.
- 1862 By studying stellar spectra, Pietro Secchi suggested the establishment of spectral classes for stars.
- 1868 Sir William Huggins discovered that the star Sirius was receding from the earth.
- 1870 Hermann Vogel started analysing planetary atmospheres by spectroscopy. Huggins though, had started such observations some time earlier.