

Your submissions of items for the Journal will be welcome.

THE NIGHT SKY AS SEEN FROM ORWELL PARK IN

SEPTEMBER

Cepheus and Lacerta occupy the zenith during late evening this month, bordered by Cassiopeia to the east and Cygnus to the west. The less obvious constellation of Aquarius is on the meridian around midnight, with the equally inconspicuous Capricornus directly south-west of it. Pisces is well into the sky by midnight in the south-east below the square of Pegasus, while to the north-east Perseus and Auriga are becoming prominent after midnight. Over to the west Hercules can still be found directly below Vega, with Aquila to the east of it.

THE SUN Sunrise is at 05h 10m at the beginning of the month changing to 06h 10m at month-end. Sunset changes from 18h 50m to 17h 40m. The Sun moves from Leo to Virgo during the month.

THE MOON - Phases. Full Moon 3d 12h 28m New Moon 17d 12h 09m
Last Quarter 10d 17h 19m First Quarter 25d 04h 07m

Occultations.	Star	Phase	Mag.	Time	D = Disappearance	R = Reappearance
	**401	R	6.3	8d 02h 45.6m		
*denotes double star.	*658	R	4.2	9d 23h 09.4m		Stars listed according to
	847	D	3.0	11d 04h 12.1m		Zodiacal Catalog (ZC) numbers.
**denotes time is correct for latitude and longitude of Greenwich	1295	R	6.5	14d 03h 31.6m		
	1296	R	6.5	14d 03h 33.5m		
	2714	D	6.1	25d 19h 27.9m		
	3243	D	7.4	29d 20h 17.0m		

THE PLANETS

Mercury reaches greatest elongation east of 27° on the 6th, but will be too close to the Sun for observation.

Venus is a morning object rising about 1½ hours before the Sun at mag. -3.4.

Mars is an evening object at mag. +1.0 in Libra, setting 2 hours after the Sun.

Jupiter and **Saturn** are both evening objects too close to the Sun for observation.

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

METEOR NOTES for SEPTEMBER 1982

by David Barnard

The Perseid meteor count had to be abandoned because of cloud on 14/8/82. Nevertheless, four enthusiastic members did turn up, so a barbeque was held instead. (Another?!)

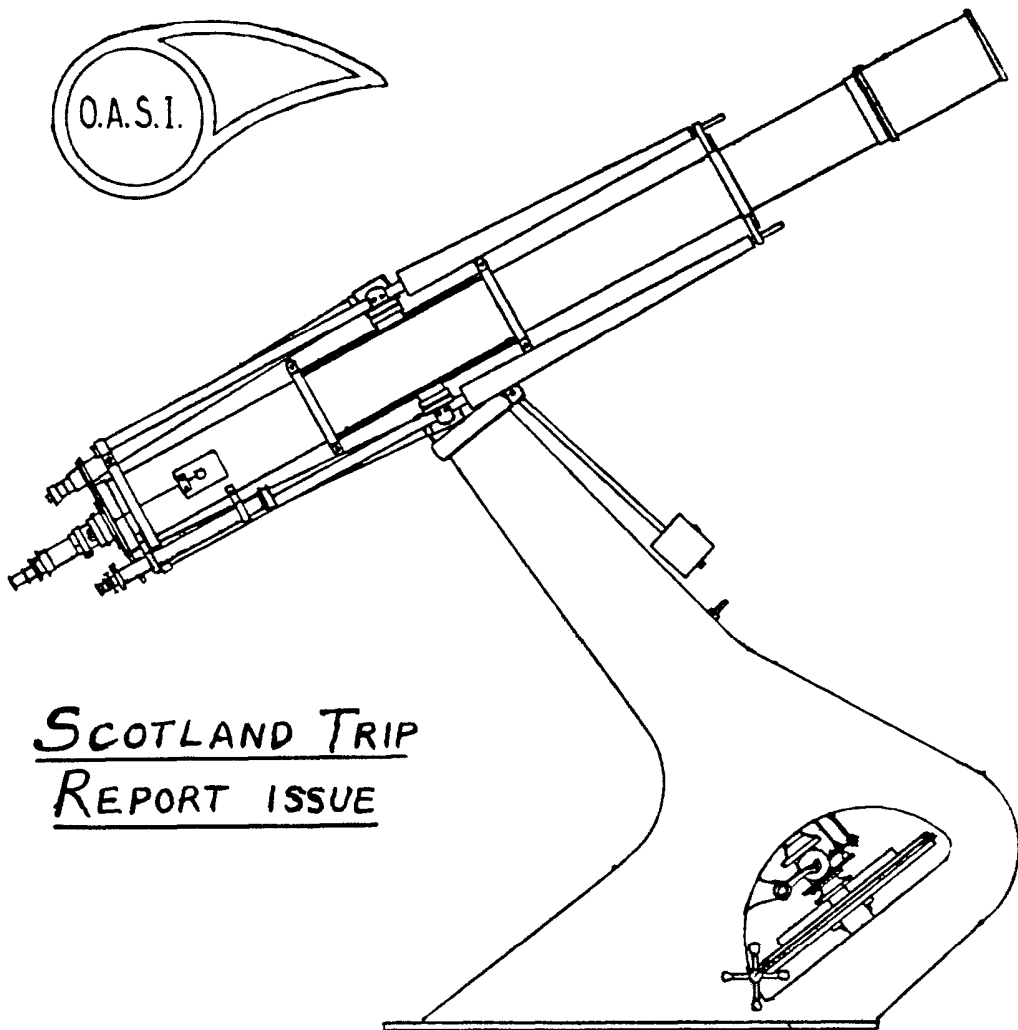
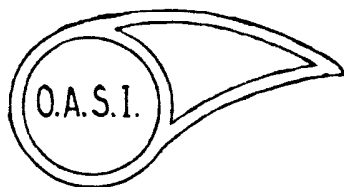
There is only one shower active this month, the alpha Aurigids. Maxima occurring on September 14th with a ZHR of 12. Radiant 04hrs 52mins +41°. Bright meteors. There will be a METEOR COUNT to observe this shower on Saturday 18th September starting at 8.30 pm, meeting at Levington Ship Inn irrespective of weather.

Those of you who read the BAA Journal for August will no doubt have seen George Spalding's article on the Geminid shower in 1980. Some familiar names as well!

ARTICLES TO READ - "Bigger and Better Bangs in the Sky" - New Scientist 12th August.

An interesting in-depth account of the latest knowledge of how and why supernovae occur, and the differences between types I and II.

"ASTRONOMY" MAGAZINE - Copies of the magazine "Astronomy", previously only available in a few selected outlets in the north of the country or on subscription, are now on sale in John Menzies' new shop in Tavern Street, Ipswich. (Info from D. Barnard.)



SCOTLAND TRIP REPORT ISSUE

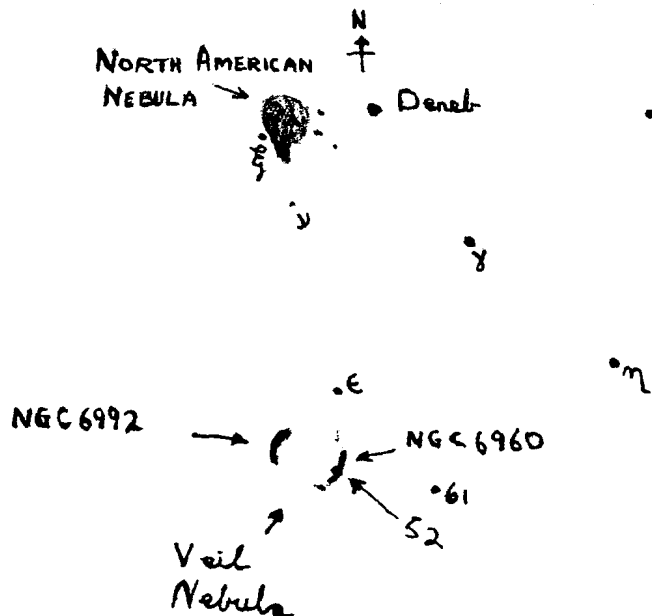
During September the constellation of Cygnus is prominent west of the zenith. With the sky becoming darker earlier in the evening, this can be a good month for observing some of the numerous nebulae in this constellation. In particular there are two well known, but not too often observed nebulae, that are worth searching for on a dark, clear night. They are the 'North American' nebula (NGC 7000) and the 'Veil' nebula (NGC 6960 and NGC 6992).

The positions of these nebulae are shown on the map below. The North American Nebula is situated about 3 degrees east of the supergiant star Deneb. It is visible with the naked eye on good nights and the famous North American shape can be discerned with binoculars. It is a large object some 1.5 degrees across, therefore low powers and wide field eyepieces are necessary for telescopic observation. Unfortunately because of the wide field required, it is not a good object in the Orwell Park 10-inch refractor. The nebula consists of a great mass of gas, dust and embedded stars. It lies some 1 600 light years away and is about 45 light years in diameter. The supergiant Deneb whose luminosity is about 60 000 times that of the Sun lies some 70 light years from the nebula and is considered to be one of the major sources of illumination for it.

The Veil Nebula is situated east of the two stars Epsilon Cygni and 52 Cygni. In fact part of the nebula (NGC 6960) passes behind the star 52 Cygni which is a foreground object. The Veil Nebula is faint and difficult to observe. The brightest portion (NGC 6992) can be seen with a 6-inch telescope with low powers while the luminosity about 52 Cygni requires an 8-inch or larger instrument. Surprisingly though, the brighter portion (NGC 6992) can be faintly seen with 7x50 binoculars on very clear, dark nights. I would be very interested in any reports from members of binocular sightings of this object.

The Veil Nebula is estimated to be about 1 500 light years away and is undoubtedly an ancient supernova remnant although no trace of the originating star has yet been found. Calculations from measured expansion rates and deceleration effects of the expanding gas shell colliding with interstellar dust, give an estimated age for the nebula of 30 000 to 40 000 years.

The constellation of Cygnus lies right across the equator of the Milky Way and is rich in deep-sky objects. Why not come along to the Orwell Observatory this month on Wednesday evenings if the sky is clear? We are sure to observe some of them!



REPORT OF SCOTLAND TRIP 1982 - A DIARY OF EVENTS D. Barnard & A. Smith

On Friday July 16th at 8.25 pm a blue minibus departed from Ipswich, containing the Looney Eyeballers section of our society. Seven members who regularly visit the most desolate, unheard of, or just plain out of the way places to observe eclipses, aurorae, grazing occultations, meteor showers and other sundry astronomical events not seen by any but the most dedicated astronomers. This time we had a specific goal, the partial eclipse of the Sun on 20th July, supposedly only visible from north-western parts of Britain just before sunset.

We decided about a week before departure, that while we were in the neighbourhood we might as well visit that well known holiday resort, the Outer Hebrides for a couple of days. A ferry passage was booked from "The Macbrayne Steamship Company" leaving Uig on the Isle of Skye to Lochmaddy on the Island of North Uist, and we all waited to find out what crossing one of the roughest pieces of water around Britain would be like. One of the less nautical types amongst us purchased an appropriate quantity of sea-sick pills, the rest relied on a more traditional medicine (brewed locally by Tolly Cobbold and Co.)

Seven hundred and twenty miles later we were safely installed on the ferry (not a steamship!) and after ensuring that plenty of medicine was available we decided that a visit to the deck might be worthwhile. The crossing turned out to be very smooth, with many seabirds and the awe-inspiring scenery well worth all the travel.

After arriving at Lochmaddy (and sorting out which map we should have, after some misunderstanding involving the navigator and his medicine) we drove to the island of Benbecula to find the brand new (and the only) camp site. It is a very flat island, no trees at all, just small lochs, rock outcrops and hundreds of dead motor cars. Seagulls of all types abound: turnstones, great skuas, all kinds of gulls were seen on the beaches, and if you want to get away from it all, this is the place to go. The camp site turned out to be like some sort of Spanish joke, not finished. Cement mixers etc. all over the place, no hot water, no electricity, no food, just cold water and medicine from the pub. up the road.

After an abysmal attempt at map reading while trying to find a passage through thousands of lochs to the only hill of note on the island, and a triumph of archaeology in finding a stone age stone house buried under four feet of ferns half way up a smaller hill, we posted some postcards from what must be the most remote postbox in the British Isles.

We left the Hebrides, with some relief, on Monday. The weather turned hot and sunny and as we passed through the magnificent scenery of the Isle of Skye we realised that the eclipse might be visible the next day.

Heading for Gairloch on the west coast of Scotland, we stopped for a brief rest and an attempt to fly the glider (fitted with radio-control and airborne camera) brought up by Chris Albins. After picking up the pieces we carried on to Kerrydale south of Gairloch and set up camp in the hills.

Tuesday dawned clear and bright and after varied activities by different members of the party, the eclipse was duly observed, albeit obscured by the light cloud that had built up during the day. Maximum was at 1934 hrs GMT with about 20 per cent obscuration. The eclipse ended at 2002 hrs GMT.

Of course, having actually observed the event that we had travelled about 900 miles to see, a celebration was called for, so, musically (?) accompanied we spent the evening in a happy mood.

Wednesday turned out to be even better. Two especially looney members went mountain-climbing and observed all types of birds, from golden eagles to stonechats plus a couple of Harriers supplied by the R. A. F. The rest of the party spent the day swimming and sunbathing at Loch Gairloch.

Thursday came and we moved camp from the idyllic hills of Kerrydale to the bleak Durness. We arrived at about 5 pm. Familiar faces again (it's them again, they were here last year, we kept hearing) were seen, and after obtaining some dried peat (the stock fuel for the area) an enjoyable barbeque was held on the beach.

Friday morning found three idiots mounting bicycles for the trip to Cape Wrath, the extreme north-western tip of the mainland. For Dave Barnard it was a return trip, as he had already done the journey last year. (Never, never again, he said at the time.) He was glad he did it again, however, because although the Cape was shrouded in sea fog and the fog horn booming out every two minutes, the discovery of a hidden bay, bathed in sunshine, with golden sands and deep blue sea, flanked by the tallest cliffs on mainland Britain and inhabited by thousands of birds made the trip worthwhile. Puffins, shags, cormorants, razorbills, oystercatchers, divers flew about by the score. Why didn't anyone take a telephoto lens? Never mind, next year maybe... The ferry (a wooden rowboat) was caught with only a few minutes to spare and we made it back to camp, 28 miles and seven hours later, at 5.30pm.

The remainder of the group had spent the day walking on the shores of the Kyle of Durness, gathering mussels and one or two pieces of peat for the next barbeque. Something about an attempt to catch fish using mushrooms as bait was mentioned on our return. (No names here.)

The barbeque was a great success and was well under way when Dave arrived at 1.30 am for his steak. (At least, it was a steak before it caught fire.)

Saturday morning dawned and we left Durness. There were now nine of us. That hole in the ground (a Souterrain) was again visited near Durness on the shore of Loch Eriboll. After dropping off a friend in Inverness and parting company with a potential looney on his motorcycle, the section stopped-off at Culloden Battlefield, Pitlochry (power station and police station) and headed homewards.

At 12.15 pm on Sunday, seven weary OASI members staggered out of the minibus in Ipswich. No-one feeling the worse for the ordeal, just a few empty wallets! A great success in all, then, for what is almost certainly the final expedition to Scotland. Who's for Iceland next year?...



(IN ANTICIPATION OF QUERIES THIS ENDPICER IS NOT BY D. BARNARD OR A SMITH)

'Flight! Look at those incredibly efficient machines down there!'

'Great if we could go about like that! But however do you suppose they work - how would they get to Iceland on those things? You'll have to go back to the drawing board again, Simpkins.'

'I don't know, Flight, but they must fly somehow as the birds must be too small to lift them and the only way in and out of there is straight down and up or by sea, and I don't see how they can float!'

SOCIETY NEWS

GRAND DRAW As the Society did not have an open day this year, at which we normally hold a Grand Draw, we have decided to hold a Draw on Saturday, 11th December. We hope that Draw tickets will be ready to enclose with this month's Journal and that you will be able to sell all of them. If you require any more, please contact the Promotor, Mr. David Barnard, [redacted], Ipswich, 'phone Ipswich 77853.

The Grand Draw provides the Society with much-needed money to keep the Society running and you are urged to sell as many tickets as possible so that we can keep our yearly subscriptions down.

Instead of purchasing a main prize for the draw, we propose having first prize £25, second prize £15 and third prize £10 plus other prizes including wines, chocolates etc.

GREENWICH TRIP We propose having a 'day out' at Greenwich on Saturday 18th September. We will travel either by cars or by minibus. If you would like to go advise either Roy Gooding, 168 Ashcroft Road, Ipswich, or David Payne, 'phone Wickham Market [redacted] NOW!!

OPEN COMMITTEE MEETING There will be an Open Committee Meeting on Saturday 11th September starting at 7.30 pm in the Observatory to which all members are invited.

OCTOBER'S JOURNAL DEADLINE The deadline for October's Journal is Wednesday 15th September. All items of astronomical interest will be graciously received by Mr. Roy Cheesman, [redacted], WEST HANNINGFIELD, Chelmsford, Essex CM2 8LQ.

TOOLS The Committee wishes to thank those members who generously donated tools to the Society but we are still on the lookout for a small wooden jack plane.

THE DOME The decorators are painting outside windows of the Observatory this month (and may already have done so by the time this Journal is printed). They will also possibly renew two window frames. This will not affect any nights up at the Observatory (apart from the fact that the eyepieces will be 'moved' to a secure place other than the usual one temporarily).

MEMBERSHIP LIST UPDATED It is hoped that an updated membership list will be included with this issue of the Journal. (If not, next issue?) Any discrepancies in names and addresses should be notified - David Barnard (see address under 'Grand Draw') is the person to contact. This, apart from it being better to have accuracy, is for making any necessary alterations on the computer that prints the self-adhesive labels.

LIBRARY REMINDERS Some library reminders may be sent out to a few members with their journals, as there are some books which have been out on loan for rather a long time!

CONGRATULATIONS FOR MIKE NICHOLLS AND FAMILY on the arrival of a baby daughter - now about a month old. May we wish them all every happiness and success for the future.

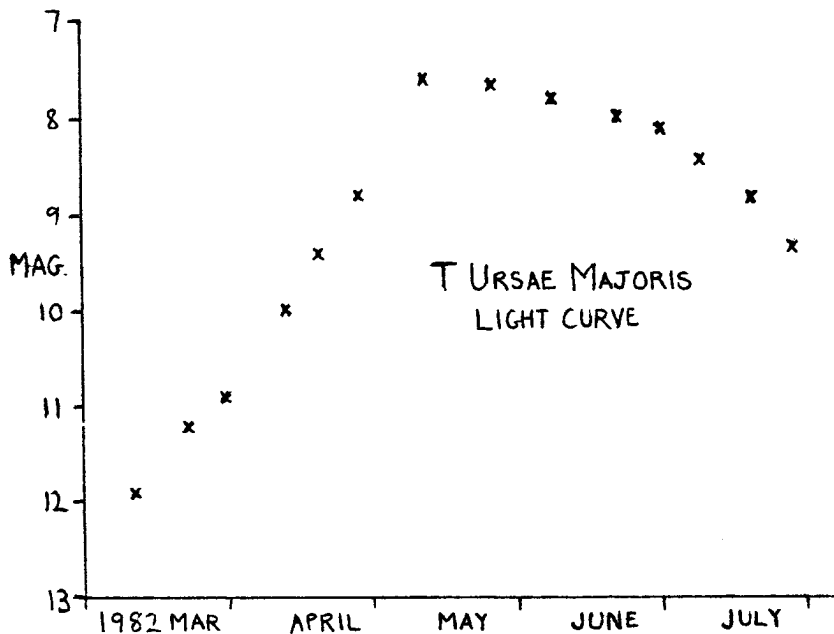
COMET AUSTIN This comet is at the time of writing travelling through the constellation of Ursa Major. It was looked at through the finder of the Orwell Park telescope by some of our members on the night (evening) of Wednesday August 18th. It did not appear to have a tail and consisted of a misty patch of about magnitude 4.5. It seems to be on predicted course and figures of co-ordinates for the position are posted up the Dome. It should be somewhere around the tail of Ursa Major when this Journal goes out just before the end of August and should be in a good position for viewing. Low powers and wider fields are possibly needed for better light grasp and contrast of the comet.

The light curve shown is that of T Ursae Majoris, a long period variable, from March to July this year. The curve shows a common characteristic of this type of star, that is, the rise is steeper than the fall. It is not possible to work out the period from the portion of curve shown, but the books list it as 257 days on average.

The magnitude variation is listed as from 6.5 to the 13th, but the maximum here only reaches about 7.6. The last maximum but one, early last year, managed to get brighter than 7.0 which demonstrates the lack of absolute regularity in this type of star.

All observations were made using an 8-inch reflector.

Finally, a correction to the variable stars report for August. All references to P Cygni should read rho (ρ) Cygni.



SUNSPOT ACTIVITY REPORT

by Roy Adams

With cloud and haze much increased lately by the stubble-burning 'community' it has been less easy to follow the sunspot parade. Other commitments have also been pressing since the last lot of solar pictures, so I regret an inability to give much detail this month. There has been a large group complete with 'naked-eye' spot roving round, however, and if any other solar observers have had the ability to get more detail on this, please communicate.

SOLAR FILTER, OPTICAL GLASS SUBSTRATED METALLISED FRONTAL - BRIEF QUOTE DETAILS

I've had a quotation for a 9.5-inch diameter Chance glass 1-inch-thick filter substrate with plane-parallelism to within 5 arc seconds, transmitted wavefront one-eighth wave, from some real specialists in Epping. But the price, even without metallising, would be £605. One could hardly better this performance at any price but unless someone is able to stump up this sort of money it's 'back to sunspot square 1'...

ORWELL ASTRONOMICAL SOCIETY (IPSWICH)

PROGRAMME FOR 1982 SEPTEMBER

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

- TUESDAYS from 8 pm General Observations Section
Directors: Mr. N. Gage and Mr. R. Hebbs. 7th and 21st
- WEDNESDAYS from 8 pm Nebular and Faint Objects Section
Directors: Mr. D. Payne and Mr. M. Cook. 1st, 8th, 15th, 22nd and 29th
- FRIDAYS from 8 pm Variable Stars Section
Director: Mr. M. Nicholls. 3rd, 10th, 17th and 24th
- SUNDAYS from 8 pm General Observations Section
Directors: Mr. M. Barriskill and Mr. R. Adams. 12th and 26th

- WEDNESDAY 8 pm Visit by Anglia Holiday Club Sudbury Seniors 1st Sept.
- WEDNESDAY 8.15pm Visit by National Housewives Register 8th Sept.
(Felixstowe and Kirton Group)

HELP IS REQUIRED FOR THE ABOVE TWO VISITS

ALSO, IF YOU GET YOUR JOURNAL EARLY ENOUGH, FOR AUGUST LATE BANK HOLIDAY WEEKEND OPENING EVENINGS FROM AUGUST 27th (Friday) to 31st (Tuesday) for Suffolk Caravan Club (and others?)

- SATURDAY 7.30 pm OPEN COMMITTEE MEETING 11th September
to which all members are invited. (at the Dome)

OTHER MEETINGS -

- SATURDAY DAYTRIP TO GREENWICH 18th September
Organised by Mr. Roy Gooding and Mr. David Payne

and if you don't go or are still fresh enough and early enough to come along in the middle of it or something like that ...

- SATURDAY 8.30 pm METEOR WATCH, Levington Ship Inn, irrespective of weather

- SATURDAY about 11.30 am to 5.30 pm - THE O. A. S. I. will be represented on a 'stand' somewhere in the Hamilton Road area of FELIXSTOWE. See if you can find us! A clue: it will be in a Church Hall somewhere... 4th September!

MORE

SUN-SPOTS.

This pic shows what

are believed to be the forerunners of the spots shown on a larger scale in last month's Journal. This pic was taken at midday on 20th June 1982 (UT) with the solar equatorial zone about one whole rotation (with respect to Earth) before the position as in the August Journal back-page photograph. Can you trace them?

Photo by R.C.A. with Prinz refractor.