

MAY 1985



1. The annual F.A.S. Convention Meeting at Herstmonceux will be on Saturday, 5th October. More details when they are available.
2. At the last committee meeting a proposal that a visit to Jodrell Bank should be arranged. Ideally a party of 12 would be required to undertake this journey, enabling a mini-bus to be hired. Before making firm arrangements I would like a tentative commitment from members who wish to go.
3. A trip to the old Greenwich Observatory at Greenwich is to be arranged for Saturday 15th June.

Members interested in any of the above items, please contact R. Gooding.

NIGHT SKY

Constellations (all times G.M.T.)

The summer constellations of Lyra, Cygnus and Aquila are now rising in the early evening, joining the principal spring constellations for observation.

Sun Rises approx. between 04.30 - 03.04

Sets approx. between 19.30 - 20.10

Moon ☉ 4th ☾ 11th ● 19th ☽ 27th

Occultations

2nd	20 1866	mag. 5.9	D	20hr. 00.6m.
5th	2290 ⁺	" 2.5	D	23hr. 42.5m
5th	2290 ⁺	" 2.5	R	24hr. 30.6m
24th	1251	" 5.9	D	23hr. 13.0m
30th	1948	" 7.4	D	21hr. 57.7m

+ Delta Scorpil

Total Eclipse of the Moon

Visible on May 4th. Totality begins at 19hr. 22m. and ends at 20hr. 31m. Moon rises at 19hr. 21m.

Mercury Greatest western elongation on 1st (27°) mag. 0.0.

Rises at 03.50 in mid month.

Venus Rises at approx. 03.00 in mid month. Mag. -4.2.

Mars Sets at approx. 21.00 in mid month

Jupiter Rises at approx. 01.00 in mid month. Mag. -2.0.

Saturn Rises before Mag. 0.2. Opposition on the 15th.

Uranus Rises at approx. 21.00 in mid month. Mag. 5.8.

Neptune Rises at approx. 22.00 in mid month. Mag. 7.7

New Members

We welcome the following new members to the society:

Mr T R Fulcher (MEMBERSHIP NO.312),
Mr C Meadows (313),
Mr R A Lobbett (314),
Miss M Edwards (315) and
Mr J Hood (194).

Visits in May

Only one this month.
Wednesday May 1st, 8pm, Suffolk Sidecar Club.

Open Committee Meeting

All members are invited to attend this meeting at the observatory club room on Saturday May 4th, at 8pm.

Journal Articles for Publication

More articles are still required; please send material to myself or any committee member by May 18th.

(David Barnard)

Lifetimes of Comets

All the processes exhibited by comets, from formation of comas and tails to fragmentation of the nucleus, suggest a progressive loss of material. This means that comets age and have limited lifetimes. To find more about the histories of comets, we need to know how long individuals survive in different types of orbits. As these objects take several millions of years to circle the Sun, we do not get opportunities to check on any disappearances.

Lubor Kresak of the Astronomical Institute of the Slovak Academy of Sciences, Czechoslovakia, has attempted to estimate comet lifetimes by analyzing data from single apparitions. He used observing records of all 400 long-period comets discovered since 1840, paying attention to the circumstances of their last sightings. In 80% of cases, a comet disappeared when it became too faint for observation. In another 18%, the reason was worsening observing geometry i.e. after the last observation most of these comets passed behind the Sun and returned to the night sky when they were already too faint for

detection.

At the end, only 8 cases of apparent extinction were left. Observers reported that the untimely fading away of these comets was preceded by the disappearance of the central condensation in the coma and by a rapid dimming.

Kresak says his results agree well with the idea that a comet's degree of aging is determined by the cumulative amount of solar radiation it has been exposed to. From his findings, he derives a mean lifetime of 20 revolutions for comets that penetrate the solar system as far as the Earth's orbit. The life expectancy increases approximately as the square root of the perihelion distance.

In general, the orbits of returning comets tend to become smaller with time, due to perturbations by other solar system objects. Short period comets have a mean lifetime of about 300 revolutions if they come within one astronomical unit of the Sun.

Kresak believes that only objects of unusual tenacity are able to survive long enough to undergo stepwise decelerations by the planets and evolve into short-period comets. It is precisely those objects that are most likely to leave behind extinct, asteroidlike remnants.

(David Barnard)

Society Outing

There will be a trip to Greenwich Observatory on Saturday June 15th. Anyone interested please contact Roy Gooding or David Barnard (daytime Ipswich [redacted]) or Eric Sims.

Camping Trip

There will be a trip to Cromer from Saturday August 10th until the 12th to observe a grazing occultation on the 12th (01 34hrs UT) and to observe the Perseid Meteor shower. Tents are required. Would-be participants please contact Eric Sims (Functions Coordinator).

Observatory Maintenance

Help will be needed at the observatory this Summer for annual repairs. Any volunteers please turn up on any Wednesday at the observatory or contact the Maintenance Coordinator, Martin Cook on Ipswich [redacted].

During May there are several occultations of reasonably bright stars by the moon. These are as listed below:

Date May	star ZC No.	Mag	Ph	approx time
2	1866	5.9	D	20:00
3	1891	4.4	D	03:06
6	2290	2.5	D	00:42
6	2290	2.5	R	01:30
7	2458	6.2	R	03:25
24	1251	5.9	D	23:13
28	1709	6.7	graze	22:37
30	1946	7.2	D	22:18
30	1948	7.4	D	22:57

NOTE: ALL TIMES ARE BST (UT+1)

The best occultation is probably the one on 6th May. The moon is just over a day past full. The star however is sufficiently bright to be easily seen against the glare from the moon and this should make it an easy occultation to observe. Both the disappearance (D) and reappearance (R) can be observed. The grazing occultation on the 28th has a track passing through the Midlands and London. This is a north limit track and therefore the star will not be occulted from the Ipswich area. It could however be interesting to observe and trying to estimate the distance from the limb of the moon at closest approach.

Grazing Occultation in February

You may recall the article in February's journal about the grazing occultation observed at Wickham Market. We have now received a reply from the Royal Greenwich Observatory concerning the observation of a short occultation where we had expected to see a near miss. The explanation is that the occultation was caused by local variations in lunar topography. Apparently the predicted positions of the graze track are given for a mean circle fitted to the lunar disk. Local topography of the lunar surface can deviate from this mean circle by $\pm 3''$. The local lunar topography for this event was $\pm 2''$ and Wickham Market was only about $\pm 1''$ outside the

perfect circle prediction and therefore an occultation was to be expected. Unfortunately when we receive the predictions for grazing occultations we do not get details of local topographical variations of the lunar surface (I had previously assumed that these predictions took these variations into account). This could mean that for future observations of grazing occultations we try to space observing teams at varying distances from the track centre. ie. at $\Delta\delta=0, \Delta\alpha=\pm 1''$ and $\Delta\delta=\pm 2''$. This of course is highly optimistic as we don't usually get enough observing teams to observe on the track let alone either side of it!

Referring back to the April Journal and the observation of the occultation of Mars on the 22nd April. Several members planned to observe this event including myself and Martin Cook. Unfortunately although it was a beautiful sunny morning, by 12 o'clock (BST) cloud was appearing from the east and by 1 o'clock we were almost totally clouded over at Wickham Market where Martin and I were observing. I have not yet heard from the other observers but am assuming that their observing locations had similar conditions.

I had tried to find the crescent moon with binoculars and my ten inch reflector prior to the cloud obscuring every thing but unfortunately with-out success. This was partly due to scudding cloud but mainly caused by a combination of hazy sky and close proximity of the moon to the sun.

If there were any observers who had better luck please let me know.

Visit to Norwich Astronomical Society

On Friday 12th April, four society members went on a visit to Norwich Astronomical Society's Observatory. Norwich Observatory is situated near the boundary of the University of East Anglia's site. The Observatory consists of three buildings. The Club meeting room, a dome housing a 10" reflector and a larger dome housing a 30" reflector.

Norwich A.S. have been building the 30" reflector for well over a decade. It is now usable but still requires additional work to be completed before the telescope is deemed fully operational. This includes motorising the dome and having the R.A. and Dec. drives computerised with a digital display. At the present time the dome has to be manually pushed round. The members who went on the trip were Roy Lobbett, Eric Sims and Martin Cook.

R. Gooding.

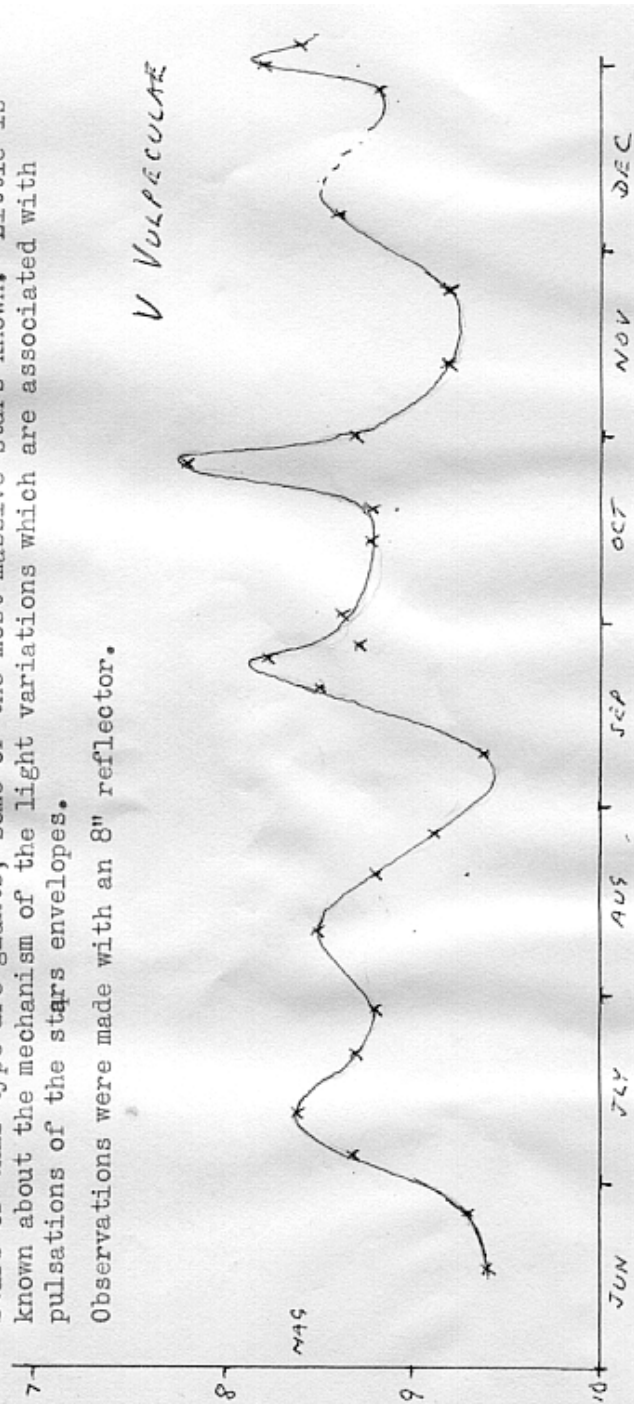
VARIABLE STAR OBSERVATIONS

by Mike Nicholls

V Vulpeculae from June to December 1984 is shown on the light curve below. This variable is a member of the RV Tauri class, which is characterised by having alternate deep and shallow minima. The period is given as 76 days, but as the class is rather semi-regular in nature, this period and some other features of the light curve, may vary from cycle to cycle. This is evident from the light curve shown, but the alternate deep and shallow minima can be clearly seen.

Stars of this type are giants; some of the most massive stars known. Little is known about the mechanism of the light variations which are associated with pulsations of the stars envelopes.

Observations were made with an 8" reflector.



PROGRAMME FOR MAY

MONDAYS from 8pm

6, 13, 20, 27

DOUBLE STAR & PLANETS SECTION

Mr N Taylor [redacted], Farlands
Trimley

Tel: Fel. [redacted]

Mr T Gillan [redacted], Felixstowe

Tel: Fel. [redacted]

TUESDAYS from 7pm

By Arrangement
With Directors

GENERAL OBSERVATION SECTION

Mr N Sage, [redacted], Trinley
Mr R Newman [redacted], Felixstowe

Tel: Fel. [redacted]

Tel: Fel. [redacted]

WEDNESDAYS from 8pm

1, 8, 15, 22, 29

NEBULEA & FAINT OBJECTS SECTION

Mr M Cook, [redacted], Ipswich
Mr D Payne, [redacted]
Wickham Market.

Tel: Ips. [redacted]

Tel: W.Mkt. [redacted]

FRIDAYS from 8pm

By Arrangement
With Directors

VARIABLE STAR SECTION

Mr R Gooding, [redacted], Ipswich
Mr M Nicholls, [redacted],
Capel St. Mary.

Tel: Ips. [redacted]

Tel: Ips. [redacted]

1985 COMMITTEE

CHAIRMAN	D Payne	[redacted] Wickham Market, IP13 OSD	Work: [redacted] Home: [redacted]
VICE CHAIRMAN	R Cheesman	[redacted], Corringham, Essex SS17 9BU	Work: [redacted] Extn: [redacted]
SECRETARY	R Gooding	[redacted], Ipswich IP1 6AE	Work: [redacted] Home: [redacted]
TREASURER	M Nicholls	[redacted], Capel St. Mary, Ipswich, IP9 2EX	Work: [redacted] Home: [redacted]
MEMBERSHIP SEC.	D Barnard	[redacted], Ipswich, IP4 5PP	Home: [redacted] Work: [redacted]
P.R.O.	D Barnard	[redacted], Ipswich, IP4 5PP	Home: [redacted] Work: [redacted]
MAINTENANCE	M Cook	[redacted], Ipswich, IP4 5QA	Home: [redacted] Work: [redacted]
FUNCTIONS	E Sims	[redacted], Ipswich, IP1 4HA	Home: [redacted]
LIBRARIAN	E Sims		