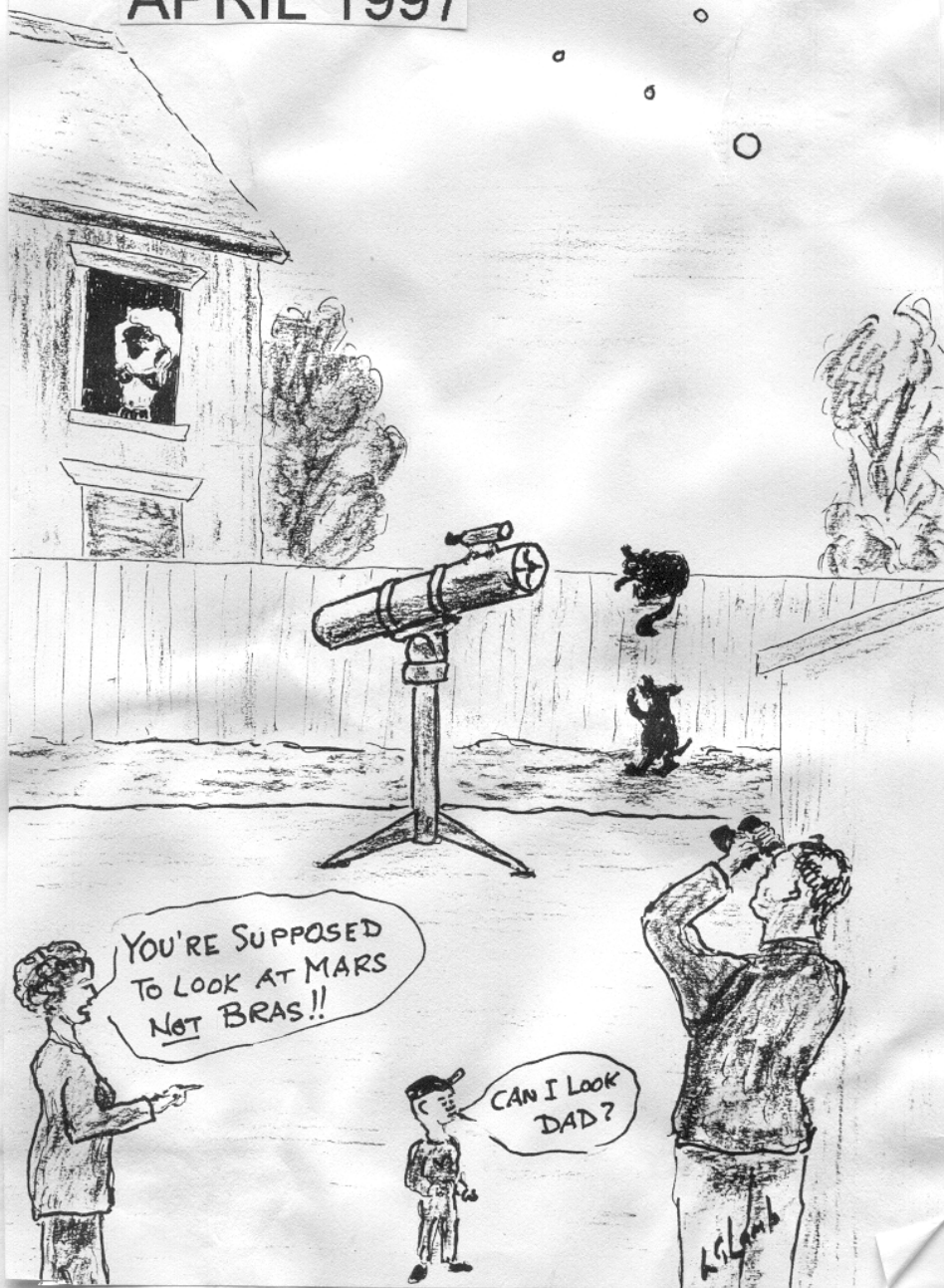


# ORWELL ASTRONOMICAL SOCIETY IPSWICH

Charity No 271313

## APRIL 1997



## SOCIETY NEWS

### 1 Committee Meeting

The next committee meeting will be held on Saturday 19th April at the observatory, from 19:30. This will be an open meeting and any member is welcome to attend.

### 2 Events for 1996

This list of events was first presented at the AGM.

Lecture Meeting Mike Harlow	17th April
BAA Winchester Weekend	4th April
Open Weekend	11,12,13 14th April
Summer excursion	No date fixed as yet
BAA Exhibition Meeting	8th June
Astro Camp	3rd to 17th Aug.
FAS Cambridge Convention	4th Oct.
Second Open Weekend ?	No date fixed as yet
Christmas Meal	10th Dec.

### 3 Lecture Meeting 17th April 20:00

A lecture meeting will be held at the Friends Meeting House at 39 Fonnereau Road, on Thursday 20th March.

The talk on will be given by Mike Harlow on

His trip to Mongolia to see the Total Eclipse.

( At the time off writing this I have learnt that Mike was unfortunately clouded out at eclipse time)

## NIGHT SKY

All times GMT

### SUN

Rises approximately	between	05:40 to 04:40
Sets approximately	between	18.30 to 19.30

### Moon

New Moon	7th
First Quarter	14th
Full Moon	22th
Third Quarter	30th

MERCURY Mercury will be reach greatest eastern elongation on the 6th. After this date it will be approaching inferior conjunction, on the 25th. The best time to see it will be at the beginning of the month in the evening twilight.

**VENUS** Venus will be at superior conjunction on the 2nd. For the rest of the month it will be too close to the sun in the sky to be seen.

**MARS** Mars fading slightly in brightness this month, as it recedes away from the Earth. Mag. -0.4

**JUPITER** Jupiter will be rising at about 02:00 at the end of the month. Mag. -2.3.

**SATURN** Saturn will be in the morning twilight this month, and will be difficult to see.

**URANUS** Uranus will be rising at about 01:30 at the end of the month. Mag. 5.6.

**Neptune** Neptune will be rising at about 01:30 in mid month. Mag. 8.0

*R. Gooding*

### OCCULTATIONS DURING APRIL 1997

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

	Date & Time (UT)	Lunar Phase	Sun Alt (°)	Star Alt (°)	Min Dist rad	Star	Mag
D	12 Apr 22:52	.33+	-28	12	.26S	SAO95354	7.2
D	13 Apr 22:30	.42+	-26	22	.85S	41 H1. Gem	6.0
R	23:02		-28	17			
D	18 Apr 23:46	.86+	-27	32	.95S	SAO118638	7.1

James Appleton

### HALE BOPP IN PERSEUS

This month is a good time to study the constellation Perseus. Around the middle of the month the comet Hale Bopp will be passing through the lower part of the constellation. To find Perseus first find the Pleiades or Seven Sisters then look north toward Polaris, about half way between the two you will see a line of three fairly bright stars with several smaller fainter ones around the brighter one this is Alpha Persei ( $\alpha$ ). To the south west is another bright star Angol, Beta Persei ( $\beta$ ). Now we are in the right area for the comet. On the evenings of 6th & 7th the comet will travel between M34 an open cluster to the right of Beta Persei and N.G.C. 1003 a rather faint galaxy to the south. In the middle of the month the comet will be heading west and about half

way across Perseus past N.G.C. 1342 an open cluster towards and then below the California Nebula N.G.C. 1499. By the end of the month Hale Bopp will be in to the constellation of Taurus.

Now having found Perseus it is well worth spending a lot more time in this area as it is a very rich star field of open clusters with the Milky Way running from northwest to southeast.

Two good open clusters are N.G.C.869 and N.G.C. 884, using a low-power eyepiece or binoculars you can get them into the same field of vision adding to the spectacle. N.G.C.869 ( the western one ) has more bright stars and is a little richer than N.G.C. 884 which contains several red stars with one near the centre. About one degree east there is another smaller open cluster N.G.C. 957 with about 40 stars including two doubles. M 34 is a fine open cluster containing about 80 stars including several pairs. N.G.C. 1245 is a fairly rich cluster which contrasts nicely with two bright stars on either side. N.G.C.1528 is another charming open cluster with many fairly bright stars. M 76 is a small planetary nebula known as the little dumbbell but at about 11th mag you need at least an 8 inch telescope to be able to make out any detail or even the dumbbell shape.

Now all we need are clear dark skies and this could be a very memorable month for comet watchers and all astronomers alike whatever branch of astronomy they follow from the keenest amateur to the professional

Name	RA	Dec	Double and Multiple Stars	
			Separation (arcseconds)	Mags
$\theta$ (Theta)	02h 44.2m	+49°14'	18.3	4.1 9.9
$\eta$ (Eta)	02h 50.7m	+55°54'	AB 28.3	3.8 8.5
			AC 66.6	3.8 9.8
$\tau$ (Tau)	02h 54.3m	+52°46'	51.7	4.0 10.6
$\Sigma$ 331	03h 00.9m	+52°21'	12.1	5.3 6.7
$\omicron$ (Omicron)	03h 44.3m	+32°17'	1.0	3.8 8.3
$\zeta$ (Zeta)	03h 54.1m	+32°53'	AB 12.9	2.9 9.5
			AC 32.8	2.9 11.3
			AD 94.2	2.9 9.5
			AE 120.3	2.9 10.2
$\epsilon$ (Epsilon)	03h 57.9m	+40°01'	8.8	2.9 8.1
$\omicron\Sigma$ 531	04h 07.6m	+38°04'	1.5	7.4 8.9
$\omicron\Sigma$ 44	04h 17.3m	+46°13'	58.4	7.2 8.6
$\Sigma$ 552	04h 31.4m	+40°01'	9.0	7.0 7.2
$\Sigma$ 57	04h 33.4m	+43°04'	116.2	6.1 6.8

Name	RA	Dec	Variable Star	
			Type	Range
$\beta$ (Beta) Algol	03h 08.2m	+40°57'	Ecl Bin	2.12-3.40
				Period 2.8673

E.Sims

Visitors to our skies  
So near - So far.

by J. Walsh

Two visitors grace our skies this spring, one is our near neighbour Mars which visits us about every two years. The other is the Comet Hale-Bopp which would have last visited us in ancient times.

First a few words about Mars. Mars also has been known since ancient times, and because of its red colour, has been worshiped as the God of War. Mars is the outermost of the terrestrial planets and has a superior orbit to Earths, its mean distance from the Sun is 141,640,000 Miles (227,940,000 KM). It takes Mars 687 Earth days to revolve once around the Sun. Its day, or Rotation Period is just over half an hour longer than Earths at 24 hours and 38 minutes. Mars equatorial diameter is nearly half of that of Earths at 4,219 Miles (6,970 KM). Because Mars is further out from the Sun than Earth, it is much colder, the mean surface temperature is  $-23^{\circ}\text{C}$ , as compared to Earths much warmer  $22^{\circ}\text{C}$  mean surface temperature. Mars orbital inclination is  $23^{\circ}$  and  $59'$ , which is about the same as Earths, but being further from the Sun Mars seasons are longer and more exaggerated. The atmosphere on Mars is very thin, only about 6 Millibars, that's about 1/200 of that on Earths Surface. The atmosphere is made up of Carbon Dioxide 95%, Molecular Nitrogen 2.7%, Argon 1.6%, Molecular Oxygen 0.13%, Carbon Monoxide 0.07%, plus traces of Water vapour, Neon, Krypton, Xenon and even ozone has been found in minute quantities. The surface features on Mars include Deserts, Mountains, Valleys and Volcanos. The only surface features that can be seen clearly from Earth are Syrtis Major, a huge triangular shaped plateau and the Polar ice caps that shrink and expand with the coming and going of the seasons. Mars highest Volcano is Olympus Mons which stands at 14 Miles (22.5 KM) which is  $2\frac{1}{2}$  times higher than our own Mount Everest. Alba Patera is Mars widest Volcano, its base is over 930 Miles (1,500 KM). The great size of these and other shield volcanos on Mars is due to a thick and stable Lithosphere and the absence of tectonic plate activity. Mars has also been in the

headlines recently when evidence of microscopic life was found in Martian rocks recovered from Antarctica. Mars also has two tiny moons, Phobos which is only 17 Miles (27 KM) in diameter, and Deimos which is just 9 Miles (15 KM) in diameter. These are probably captured asteroids from the asteroid belt between Mars and Jupiter.

Our other visitor, comet Hale-Bopp was discovered on 22nd July 1995 by Alan Hale and Thomas Bopp, two observers from Arizona in the U.S.A.. They noticed a small object close to the Globular Cluster in M.70. When comets are discovered they are usually named after the

astronomers that discover them. Comet Hale-Bopp is due at perihelion (its closest approach to the Sun) on April 1st 1997.

The comet probably started its journey from the Oort cloud which is a spherical cloud of low density icy rock, which lies beyond the orbit of Pluto, extending out to about 1.5 light years from the Sun. Our Solar System orbits our Galaxy, The Milky Way every 225,000,000 years. As we pass other star systems their gravitational influence disturbs the icy rocks within the Oort cloud and they fall inwards towards the Sun on a highly elongated orbit. When the comet gets near enough to the Sun, it heats up releasing gas and dust to form the Coma, this, in turn streams away from the comet to form one or more tails. The Oort cloud is named after the Dutch astronomer Jan Oort (1900-1992) who postulated it in 1950

Once comet Hale-Bopp leaves our skies, it won't be back again for another 4,000 years. So make the most of observing our two spring visitors, one from so near, the other from so far

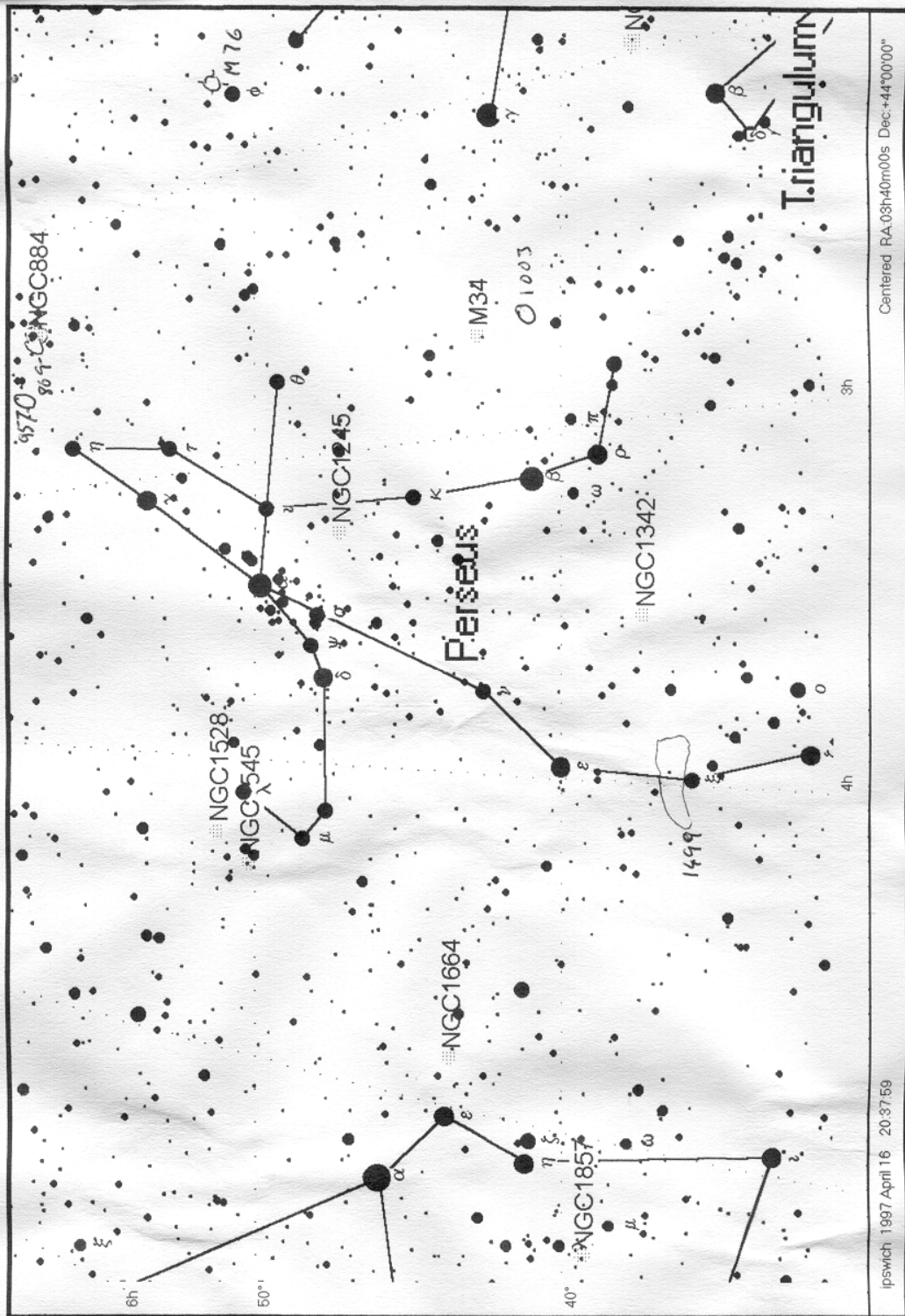
## OPEN WEEKEND

The observatory will be open to the public on April:

11th 12th 13th 14th  
from 20:00 to 22:00

To observe  
COMET HALE-BOPP

As much help as possible will be required from members. If you can help, if only for a short time, please come along



## PROGRAMME FOR APRIL

Mondays from 7.30pm No Directors available for this night	GENERAL OBSERVATION SECTION
Tuesdays from 7.30pm Mr P Richards	OBSERVATORY VISITS FROM OUTSIDE GROUPS
Wednesdays from 7.45pm Mr M Cook	NEBULA & FAINT OBJECTS SECTION Mr D Payne
Thursdays from 7.30pm Mr P Richards	OBSERVATORY VISITS FROM OUTSIDE GROUPS
Fridays from 7.30pm 11th - 25th Mr J Hood	DOUBLE STARS Mr M Barritt

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

### Lectures and other events:

Committee Meeting -----On Saturday 19th April at 7.30pm in the club room at the observatory. All members are welcome to attend.

LECTURE "CELESTIAL SPECTACULARS - COMETS AND ECLIPSES" Thursday 17th April 8pm at the Friends Meeting House Fonnereau Road Ipswich.

e-mail enquires to [oasieng@btbcs.bt.co.uk](mailto:oasieng@btbcs.bt.co.uk)  
WWW url <http://www.ast.cam.ac.uk:80/~ipswich/>

### 1997 COMMITTEE

	Home Phone	Work Phone
CHAIRMAN	D Payne	
SECRETARY	R Gooding	
TREASURER	M Nicholls	
MAINTENANCE CO-ORD	M Cook	
JOURNAL CO-ORDINATOR	E Sims	
PUBLICITY & VISIT CO-ORD	P Richards	
EQUIPMENT CURATOR	M Harlow	
SPECIAL EVENTS CO-ORD		
LIBRARIAN & COMP SOFTWARE	J Appleton	
JOURNAL ARTICLES TO	E Sims	Ipswich Suffolk IP1 4HA
CORRESPONDENCE ADDRESS	R Gooding	OASI Secretary Ipswich Suffolk IP1 6AE
MEMBERSHIP	M. Cook	Ipswich IP4 5PZ

# ORWELL ASTRONOMICAL SOCIETY ( IPSWICH)

ORWELL PARK OBSERVATORY  
NACTON NR IPSWICH

## PUBLIC OPEN WEEKEND

THE ORWELL PARK OBSERVATORY WILL BE  
OPEN TO THE PUBLIC

- FRIDAY 11th April from 8:00 to 10:00 pm
- SATURDAY 12th April from 8:00 to 10:00 pm
- SUNDAY 13th April from 8:00 to 10:00 pm
- MONDAY 14th April from 8:00 to 10:00 pm

## FOR THE OBSERVATION OF Comet Hale-Bopp & the night sky

If weather conditions permit

If you have a pair of binoculars please bring them along

An alternative programme of talks and slide shows will be arranged if weather conditions are not suitable for observation

Entrance by donation

Child & OAP 50p  
Adult £1

Honorary Secretary  
Mr. R. Gooding  
168 Ashcroft Road  
Ipswich.  
IP1 6 AE