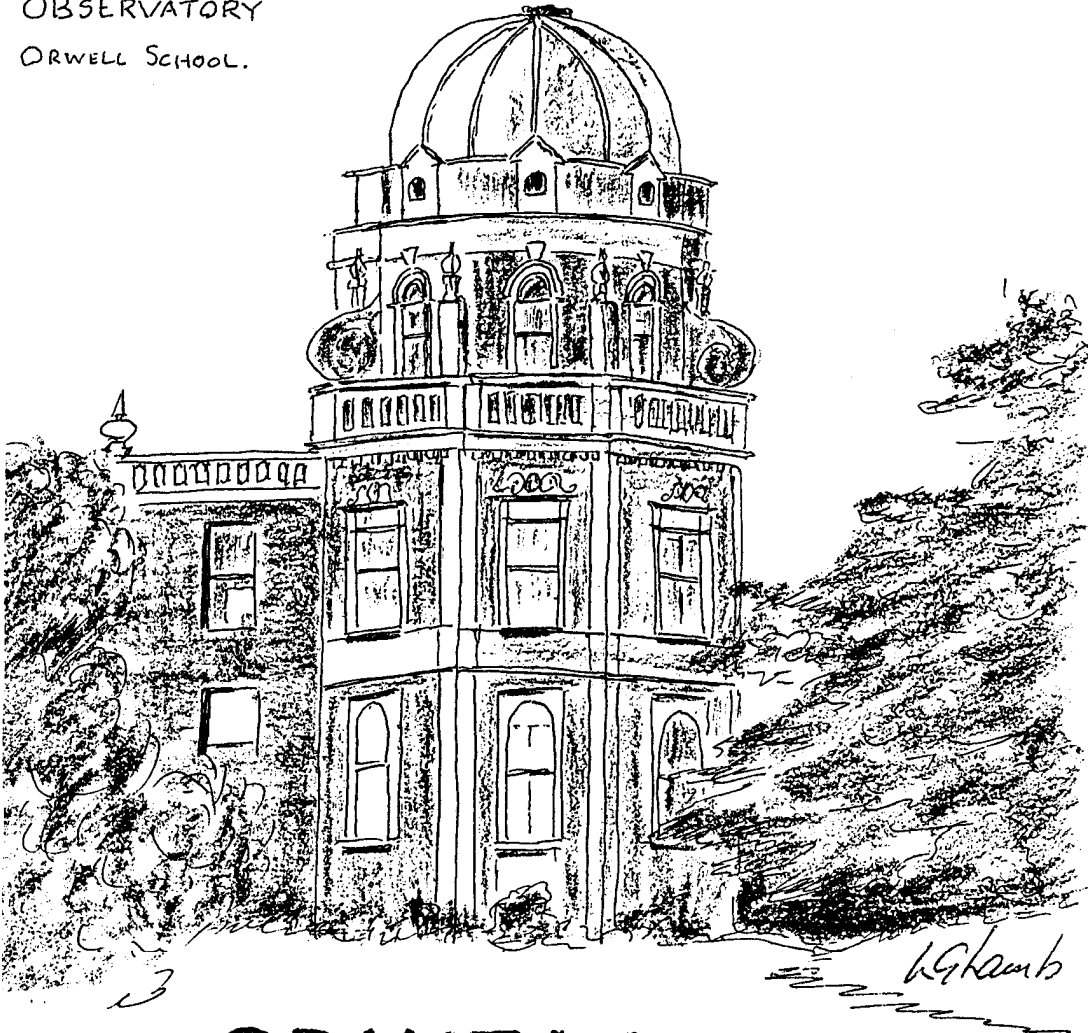


JUNE
1995

SOCIETY NEWS

OBSERVATORY
ORWELL SCHOOL.



ORWELL

ASTRONOMICAL SOCIETY ~ IPSWICH

1

NEW CAR PARKING FOR 1995

 * The society has been asked by the school to change our *
 * present car parking arrangements. Will all members *
 * and visitors please now park around the grass island *
 * in front of the school and not near the school kitchens *
 * *****

2 List of events for 1995

Ipswich Museum Open Day	10-6-95
BAA Exhibition London	24-6-95
School parents day	8-7-95
Astro Camp	13-8-95
FAS Convention	30-9-95
Second open weekend	27,28,29th November?
Christmas Meal	13 or 20-12-95?

3 Return of Unused Observatory Keys

If any member has a set of observatory keys and no longer needs to use them, could you please return them to Roy Gooding. The keys will be reissued to members who have expressed an interest in starting new evening meetings. A set of keys costs the society about £12.00, and there are over 15 sets of observatory keys.

4 The Next Committee Meeting

The next committee meeting will be held on Saturday 17th June, at the observatory. Any member is welcome to attend. The starting time will be about 19.30

NIGHT SKY

All times GMT

SUN

Rises approximately at 03.40
Sets approximately at 20.15

MERCURY Mercury will be at inferior conjunction on the 5th. It will be at greatest western elongation on the 29th (22°).

VENUS Venus will be rising about an hour before the sun this month, and will be in the bright morning twilight sky. Mag -3.9

MARS Mars will be setting by 23.00 at the end of the month. Mag. 1.1

JUPITER Jupiter will be at opposition on the 1st of the month. Jupiter will be visible all night. Mag. -2.5.

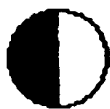
SATURN Saturn will be rising at about 00.00 in mid month. Mag. 1.2.

URANUS Uranus will be rising at about 21.00 in mid month. Mag. 5.6

Neptune Neptune will be rising about 20 minutes after Uranus. Mag. 7.9

R. Gooding

MOON



6th



13th



19th



28th

OCCULTATIONS DURING JUNE 1995

The table lists disappearance times of stars of magnitude 7.5 or brighter which are occulted during the month. Only events taking place under favourable circumstances are listed. The data relates to Orwell Park Observatory, and timings, etc. will differ slightly for nearby locations.

Date	Time (UT)	Mag	Lunar Phase	Sun Alt (°)	Star Alt (°)	Star (D=double)
Thu 01 Jun	21:12:32	3.6	0.11+	-8	7	ZC1106 Lambda Gem
Mon 12 Jun	00:55:24	6.2	0.98+	-14	13	PPM231334 (D)
Mon 12 Jun	00:55:53	3.8	0.98+	-14	13	ZC2322 Nu Sco (D)
Wed 14 Jun	23:06:20	4.0	0.95-	-14	12	ZC2826 Rho Sgr

James Appleton

Messier Objects in Coma Berenices

David Payne

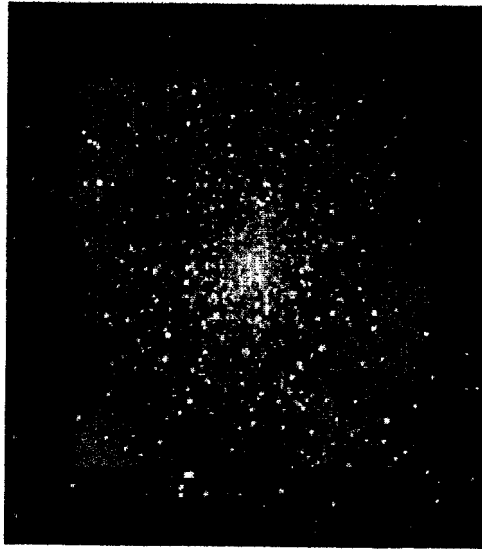
Coma Berenices is a small faint constellation lying between Bootes and Leo. There are 68 NGC objects contained within the constellation boundaries of which seven are listed in the Messier catalogue, six are galaxies (M64, M85, M88, M98, M99 & M100) and one is a globular cluster (M53).

Alpha Comae the brightest star at magnitude 4.23, is a binary star system with two almost identical stars. The plane of the orbit of the stars is almost edge on to the Earth such that the separation of the stars varies from effectively zero to a maximum of 0.9". The period of the orbit is 25.85 years and the last minima occurred in 1993 and is therefore separation is difficult at present requiring large instruments and good seeing.

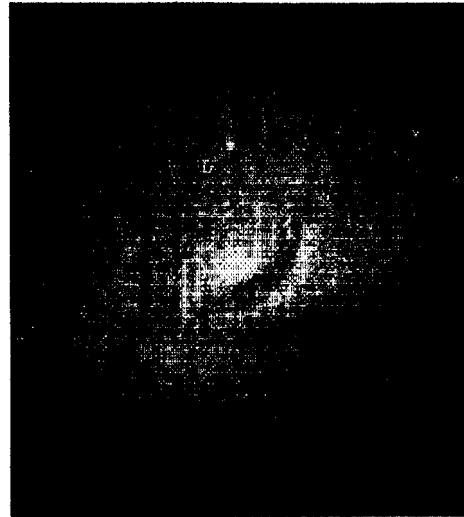
The Coma Berenices star cluster is probably the best known naked eye cluster after the Pleiades and the Hyades. It has a diameter of about 5 degrees and is therefore best seen with good binoculars. The cluster contains five stars greater than fifth magnitude with a further 32 fainter stars identified as true cluster members. The cluster lies at 250 light years distance and is one of the closest galactic clusters with only the Hyades and the Ursa Major group lying closer.

The globular cluster M53 is easily found one degree north east of Alpha Comae. Visually it appears as an 8th magnitude circular patch of light about 10 minutes of arc in diameter fading at the edges. Some resolution of individual stars begins with telescopes of four inches aperture or greater. The cluster lies some 60,000 to 65,000 light years away with a diameter of about 60 light years and a luminosity of about 200,000 suns. Lying one degree south east is the peculiar cluster NGC5053. This has an integrated magnitude of 10.5 spread over a disk 8 minutes in diameter. The low surface brightness means that at least an 8 inch is needed to detect it visually.

M64 the 'Black Eye Galaxy' is found one degree east north east of the star 35 Comae. It is a spiral galaxy with very smooth and uniform spiral arms but the most remarkable feature is a huge dust cloud bordering the north east side of the nucleus. This dark cloud should be visible in 6 to 8 inch telescopes under good conditions and is clearly visible in a ten inch telescope. The galaxy is an 8th magnitude object about 7.5'x3.5'. The distance is estimated to be between 20 & 25 million light years and is thought not to be a member of the Virgo cluster of galaxies. The distance is uncertain and other estimates have put the distance as far out as 44 million light years and as close as 12 million light years.

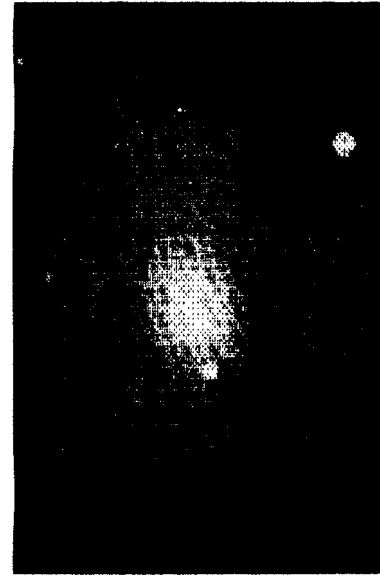


M53



M64

M85



The galaxy M85 is one of the bright members of the Virgo cluster with integrated magnitude of 10.5 in an area about 3'x2'. Visually the galaxy is elliptical and is usually classified as such, however some photographs made at Palomar show partial spiral arms and suggest that the classification should be modified towards spiral types. The galaxy is around 40 to 44 million light years with a diameter of about 40,000 light years. Lying close to M85 at a distance of only to the east is a faint galaxy NGC4394 magnitude 12 object 3' in diameter should be detectable with a 8 to 10 inch telescope on good dark nights.



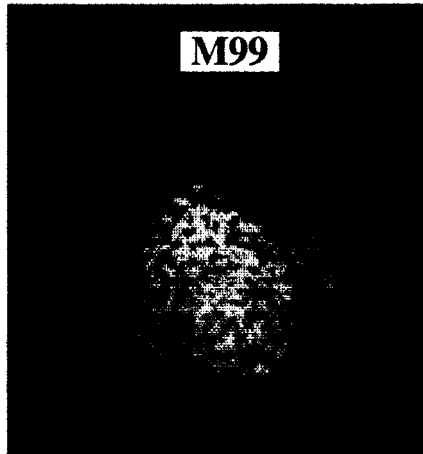
M88

M88 is a fairly bright multi-armed spiral galaxy resembling a small version of the Andromeda nebula. It is a 10th magnitude object 5.5'x2.5' and lies at an estimated distance around 41 to 44 million light years. However the measured shift corresponds to a recessional velocity of 1280 miles/second and would place the distance at almost three times the accepted value however other observations suggest the closer distance is correct and that M88 is a true member of the Virgo cluster.

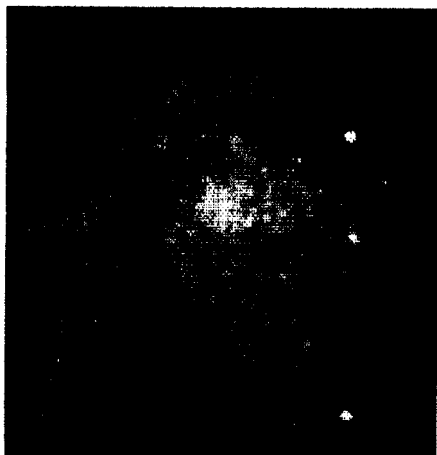
PROGRAMME FOR JUNE

M98 is found 0.5 degrees west of the star 6 Comae. This is an 11th magnitude object 8.2'x2.0' and is a near edge on spiral galaxy. This is another galaxy with an unusual red shift compared to that corresponding to the estimated distance

of 35 million light years. In this case the galaxy is actually blue shifted with an approach velocity of 125 miles/second. If the estimated distance is correct the diameter of the galaxy is 90,000 light years.



Only 1.3 degrees east south east of M98 lies the almost face on spiral galaxy M99. This is a 10th magnitude object 4' in diameter. The distance is estimated to be 45 to 50 million light years, again however the red shift would indicate a much larger distance of around 150 million light years. Using the estimate value of 45 to 50 million light years gives a diameter of 50,000 light years.



M100

M100 is the largest spiral galaxy of Virgo cluster. It is almost face on has apparent magnitude of 10.5 in diameter of 5'. Again the red shift appears to give too great a distance (around 100 million light years compared to the accepted distance of million light years. Using this value diameter of M100 would be about 110,000 light years about the same size as the Andromeda Galaxy.

There are many other galaxies in this region of sky and many pleasant hours can be spent wandering amongst them. However only long time exposures

photographs or CCD images show any real detail, visually they appear as usually featureless patches of light but this should not detract from searching out these distant objects with moderate telescopes when the skies are dark.

<i>Mondays from 7.30pm</i> <i>No Directors available for this night</i>	GENERAL OBSERVATION SECTION
<i>Tuesdays from 7.30pm</i> <i>Mr D Barnard</i>	GENERAL OBSERVATION SECTION <i>daytime only</i>
<i>Wednesdays from 7.45pm</i> <i>Mr M Cook</i>	NEBULA & FAINT OBJECTS SECTION <i>Mr D Payne</i>
<i>Thursdays from 7.30pm</i> <i>Mr P Richards</i>	OBSERVATORY VISITS FROM OUTSIDE GROUPS
<i>Fridays from 7.30pm</i> 9th - 23rd <i>Mr J Hood</i>	DOUBLE STARS <i>Mr M Barritt</i>

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

Lectures and other events:

Committee Meeting Saturday 17th June in the club room.

~~<http://www.ast.ac.uk:80/>~~

~~<http://www.ast.cam.ac.uk:80/>~~

<http://www.ast.cam.ac.uk:80/~ipswich/>

e-mail enquires to oasieng@btbcs.bt.co.uk

WWW url ~~<http://ast.cam.ac.uk/~ipswich>~~

1995 COMMITTEE

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SECRETARY	R Gooding	
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MAINTENANCE CO-ORD	M Cook	
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SPECIAL EVENTS CO-ORD	M Andrews	
LIBRARIAN & COMP SOFTWARE	J Appleton	
JOURNAL ARTICLES TO	E Sims	Ipswich Suffolk IP1 4HA
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