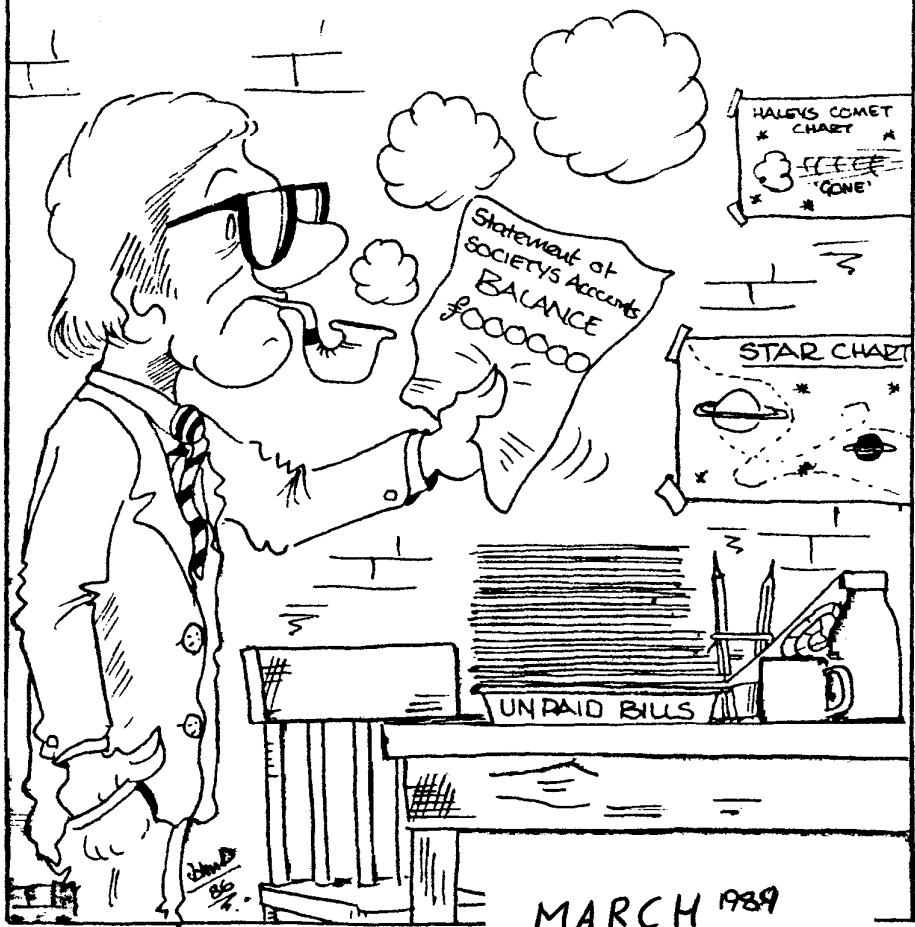


MARCH 1989

DID YOU KNOW YOUR DUES ARE DUE ?



SOCIETY NEWS

1 Next Committee Meeting

The next meeting will be held on Saturday 8th April at the observatory, starting at 7.30. This is open to all members.

2 1989 SUBSCRIPTIONS

The 1989 subscriptions are due on 1st January.
THE RATES FOR 1989 ARE:

JUNIOR & OAP's	£4.50
ADULT	£7.00
FAMILY	£8.00

Plus an extra £2.00 for newsletter postage if required.
This will be the last newsletter sent to any members who have not paid.

NIGHT SKY

(ALL TIMES G.M.T.)

SUN Rises approximately between 07.00 to 05.40
Sets approximately between 17.30 to 18.30

MOON



MERCURY Mercury is moving closer to the sun in the morning sky and will be very difficult to find.

VENUS Venus is approaching superior conjunction in April and will not be observable this month.

MARS Mars is moving east in Taurus this month. It will be setting about 00.30 month. Mag. 1.2

JUPITER Jupiter will be setting at midnight in mid month. Mag. -2.2

SATURN Saturn is visible in the morning sky, rising before 04.00 in mid month. Mag. 0.6

URANUS Uranus is also in the morning sky. It rises about 30 minutes before Saturn.

NEPTUNE Neptune is in the morning sky, located a few degrees

R. GOODING

THE OASI LEADS A MERRY DANCE IN ORKNEY

In 1980 a group of OASI members visited the North of Scotland, the excuse being to observe the Aurora Borealis. Although the observation was a failure, the awesome majesty of the scenery immediately impressed itself upon the whole group and the trip became an annual event. In midsummer 1988 the visit was extended to include the Orkney Islands, and with the extra 1 degree of latitude gained, observations of the sun around the summer solstice were planned. In the event, a continual sea fog covered the low lying islands and all astronomical interest was taken up by visits to the standing stone "henge" monuments and other neolithic structures that abound in an amazing state of preservation and restoration. Once again it was the "spirit" of the land and its people that made a lasting impression on the small group that made the journey. As a result a return visit was planned, this time during the long dark days of winter, with some real possibility of observing the Northern Lights. The following is an account of the journey to, and time spent on Orkney.....

Because bad weather and road conditions were expected it was decided to let the "train take the strain" and three OASI members, Dave Barnard, Pete Richards, and myself met at Ipswich railway station at 1530 hrs on Thursday 2nd Feb. (owing to British Rail pricing structure and availability of trains and ferries at weekends it had to be a Thursday!). Tickets for the day long journey were purchased (at which was thought a very reasonable price) and a sleeper car booked for the return trip (at which was thought, and subsequently proved to be, a very unreasonable price) and the "adventure" began. The rail trip was in excess of 800 miles and the number of connections to be made, in time, was a real problem. London was reached with no bother and the first connection to Edinburgh (in reserved seats) was boarded. (Several tens of people WITHOUT seats booked had to STAND from London to Edinburgh!) Unfortunately, a suspected suicide on the line meant that arrival in Edinburgh was delayed, and despite assurances from the guard on our train that our connection on the last train to Inverness would be held, an empty platform told a different story. This was disaster as missing this connection would mean that all further connections, including the only ferry to Orkney could now not be made, and 2 nights accommodation somewhere in Scotland would not be an adequate alternative. We approached the station manager, explained the situation, and within half an hour we were on a special train that was to take us to Stirling where our original connecting train was now being held for us!!! The rest of the journey to the most northerly station in Britain was made without incident and with a "hostess" style buffet delivering refreshments even at 3 o'clock in the morning, it was as comfortable as possible. (The bad weather we had expected had not materialised, and not a single flake of snow was seen....yet). The ferry "St.Ola" was boarded at 1200 midday on 3rd Feb and the final 2 hour leg of the journey commenced. The waters in which we had seen killer whales during the summer were now churned by a gale force 8 wind (and not all passengers were good sailors!!), the Old Man of Hoy was passed and Stromness harbour was a welcome sight.

The real holiday began on Sat 4th Feb (Day 3) with a visit to Yesnaby cliffs. These 200ft plus sheer cliffs face almost due West and in storm conditions the waves could be seen breaking over the top as we drove our hired car along the access road to park in the

lee of a long abandoned wartime lookout post. It was difficult to stand upright in the teeth of the gale and the pictures taken cannot hope to convey the force of wind and sea that was sending plumes of spray and foam hundreds of feet in the air.

Our 2nd night on Orkney was to be spent on the remote island of Hoy, and so we drove across "Mainland" to the small ferry terminal in gathering darkness hoping that inter island ferry would still run in the conditions (It did!).

The 30 minute crossing and the short drive to our farmhouse bed and breakfast accommodation was completed in total darkness and it was with some apprehension that we knocked on the door. The warmth of welcome was incredible and our rooms perfect. Louise, our landlady, and Arthur run a beef farm, and our short stay will remain in my mind forever, with the farmhouse a perfect retreat from the rat-race of Southern Britain. Arthur was working flat out to complete construction of new byre for the cows before the deadline of calving was reached. (I only hope construction was finished before the storms of the last few days smashed into Northern Scotland, with wind speeds of 146 mph in places). Although our stay was only for 3 nights it quickly became apparent that the people of Hoy have retained something that we in the south seem to have lost; a regard to the land and ALL that it supports. Even though Arthur is running a commercial enterprise he still has time for all of his animals, individually, (the calf born while we there was not just pounds, shillings and pence) chemicals are virtually never used on the fields, and wild flowers (in the spring) still abound.

Our first day on Hoy was spent walking to the summit of Ward Hill, the highest point in Orkney. The ascent of the 1600 ft hill was made in storm force winds with Dave being lifted off the ground at one point. White mountain hares were seen near the top just before a short sharp blizzard cut visibility to nil, and at last we saw and felt snow under our boots. (On our return Louise suggested that our climb in those conditions would be a talking point for some time come.) The next day we walked overland to the Old Man of Hoy and St Johns Head, at 1300 ft the tallest sheer cliffs in Britain. Persistent high winds and driving rain made the walking difficult and the possibility of observing the Aurora was beginning to look dubious. (The day before we arrived, Arthur explained, the display had been so spectacular that even the locals had stopped darts matches and left the pub the watch).

The next day we took leave of our marvellous hosts and their children and made our way back to Mainland (the largest of the Orkney Islands) and then on to another small island called Rousay. The crossing on the small ferry was accompanied by a vicious squall and LARGE quantities of water poured into the boat, only good door seals on the car keeping the flood out of the cab! On arrival we booked into our next B&B and then walked to a large natural arch, previously visited by Pete in the summer. Once again enormous waves pounded the cliffs and explosively rocketed out of caves cut into the cliff face by the power of the water. (This time Pete was NOT attacked by nesting birds!)

This was to be our last night under dark skies and the chance of seeing the Aurora was slipping away. Despite a clear interlude early in the evening cloudy skies had returned and we sat in the bar eating dinner and wondering just how we were to get home having just heard on the news that the rail bridge at Inverness had collapsed leaving the entire North Scotland railway network

isolated! Adjournment to the bar was indicated! Again the friendliness of the locals was evident and before long the occasional quick peeps to see if the cloud had cleared were stopped. Our host on this occasion was attempting to keep to the licensing laws, with non residents forced to leave at around 2315 hrs. We residents were just finishing off another round when car headlights pulling into the car park aroused some comment from our landlady. A tap on the glass and the comment "The Merry Dancers are just starting, so if you are quick you will see them from near the ferry" resulted in frantic activity from us non Orcadians, with warm coats, cameras, tripods etc hastily being thrown in the car (It should be explained that this was not an invitation to take part in some ancient ritual, but that the Merry Dancers of the Vikings are the Northern Lights!). By the time we had sorted ourselves out and got outside, the clouds were beginning to hide a spectacular auroral display with several bright, white, rays shining from an arc high up in the northern sky. There was no time for photography just amazement that the display was so bright, the clouds soon cloaking the scene. Despite staying up until 3am, rain forced me to believe that there would be no further chance to see the Merry Dancers that night.

The next day dawned CLEAR and the return ferry trip to Mainland was very smooth, but the forecast for the next day, our last, was for severe SE gales. We again visited the stone circles at Stenness and Brodgar, this time in splendid sunshine and low temperatures, with some good pictures being the result. Gathering cloud by sunset told us that the gales were indeed on the way, and we prepared for a VERY rough crossing. Our last night on Orkney was spent in reflecting what might have been if only...

The return trip on MV St.Ola to the port of Scrabster was somewhat memorable but no bad sailors this time (perhaps it was TOO rough?).

After the short bus ride to our railhead at Thurso, British Rail assured us that a bus connection would be provided to enable us to regain the main rail network south of the broken bridge. All went well until, reaching Inverness, we boarded our overnight sleeper to London to find that there was no restaurant car and the buffet was for 1st class passengers only. Nearly 12hrs on the train and no meal or drink available except for a small bottle of mineral water in our sleeping compartment! We arrived home mid morning 10th Feb. with our next trip already being planned (we will NOT be using BR as transport)!

A.J.Smith

FOR SALE.

3" refractor - focal length approx. 3 ft. 100 years old, complete with star diagonal plus one eyepiece, and tripod. Manufactured by Broadhurst, Clarkson & Co., London.

Offers and further details from Mr. Capey, Ipswich

TELESCOPE MAKING SECTION

MAKING A FINDERSCOPE by Mike Harlow

Most telescopes have quite a narrow field of view so that trying to find a faint object in an unfamiliar part of the sky can be rather difficult. By fitting a finderscope which has a relatively wide field of view it becomes easy to 'star-hop' from a well-known star to the object you are interested in.

What follows is a description of a finder that I recently made. The construction was dictated almost entirely by the materials that I had available which I had accumulated over the years.

For the optics I used a lens and eyepiece combination from an old pair of binoculars I bought from a second hand shop in Ipswich. They were way out of alignment and quite cheap but gave me two good lenses and eyepieces.

There are two parts to the finder: The tube assembly itself and its supporting rings which not only fix it to the main telescope but also allow it to be adjusted.

A) FINDER TUBE

The lens from the binoculars is 50mm in diameter and fits nicely into a 2 inch I.D. steel tube I bought some time ago from a scrap yard in Norwich. I cut a piece of this tube so that, with the eyepiece fixed at one end, the lens would be recessed by about an inch at the other. This acts as a built in lens hood to exclude stray light. To fix the lens in place I cut two rings from a 2.75 inch plastic drainage tube. A section was cut out of each ring leaving a C-shaped piece which when compressed fitted the I.D. of the steel tube. The springyness of the plastic ensured that it forced itself against the inside of the tube to give a tight fit. The lens was sandwiched between these two "rings"--no glue or fastenings being required.

The eyepiece was rigidly fixed at the other end. As this is a low powered finder it is not necessary to have a focusing system. A plywood disc was cut equal to the O.D. of the steel tube with a hole drilled centrally to take the eyepiece. The ring was glued to the steel tube and the eyepiece glued into the hole. Focus is achieved by moving the objective lens up or down the tube until the infinity focus is found. It can then left in this position. The finder is now finished apart from a coat of paint.

B) FIXING RINGS

It is necessary to have the finder fixed rigidly to the main telescope but also adjustable so that both telescopes can be pointed at the same thing. To achieve this I made two rings by cutting 1cm wide slices from the end of a 4 inch diameter thick walled steel tube. Holes were drilled and



tapped to take bolts at 3 points separated by 120 degrees which hold the finder tube. By adjusting the position of these bolts the finder can be aimed. Each ring was bolted to a 1cm by 8cm strip of steel having a hole near each end. These fix the whole assembly to the telescope--it would be just as easy to fit curved pieces to fit any diameter telescope tube. When the finder is fitted to the telescope it can be aligned either during the day on a distant object or at night on a bright celestial object.

A typical finder made from binocular optics would have a field of approx. 5 degrees with an inverted image matching the view in the main instrument (this is a consequence of omitting the prisms). One refinement I've yet to make is to fit crosshairs into the eyepiece. This is a little difficult in some eyepieces as the focal plane of the objective lens has to lie outside the eyepiece so that it has to be extended before crosshairs can be fitted. They are however very useful for accurate pointing.

SAFETY NOTE:

In the photograph of the finder it can be seen that the three retaining bolts stick out quite a way from the rings--this is potentially dangerous if trying to peer through the finder at odd angles in the dark (as is generally the case). The bolts should be made shorter than those illustrated and preferably have their ends suitably covered.

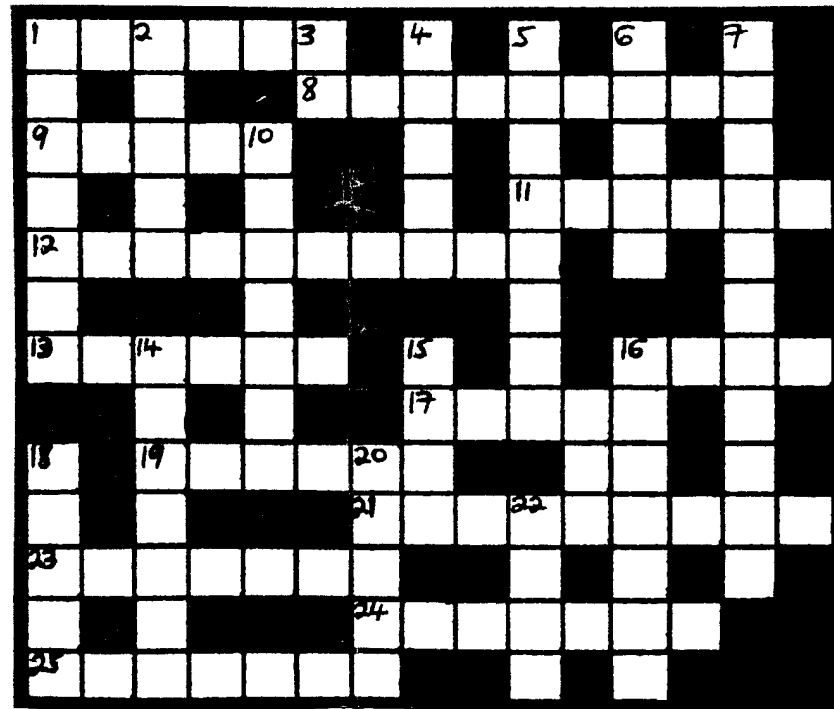
ACROSS

- 1 INTERCEPTED HALLEY'S COMET (6)
- 8 SHIFT TO SHORTER WAVELENGTHS OF SPECTRUM OF CELESTIAL BODIES APPROACHING THE EARTH (9)
- 9 SATELLITE OF URANUS DISCOVERED IN 1851 (5)
- 11 OPEN STAR CLUSTER IN TAURUS (6)
- 12 REGION OF ATMOSPHERE BETWEEN 40 & 400 MILES ALTITUDE (10)
- 13 AMERICAN OBSERVATORY WITH WORLD'S LARGEST REFRACTOR (40") (6)
- 16 TRIPLE STAR IN BOOTES (4)
- 17 GIANT CENTRAL STAR WITHIN AQUARIUS (5)
- 19 ONE OF THREE COSMONAUTS KILLED IN 1971 FOLLOWING A HATCH - SEAL FAILURE DURING RE-ENTRY (6)
- 21 THE UNICORN - CONSTELLATION (9)
- 23 PHENOMENON THAT OCCURS WHEN ONE CELESTIAL BODY IS CONCEALED BY ANOTHER (7)
- 24 GALACTIC NEBULAE ARE THIS (7)
- 25 ONE OF THE PLEIADES (7)

DOWN

- 1 HAS AN ACCELERATION OF 32.09 ft/sec^2 AT THE POLES (7)
- 2 VERY CONSPICUOUS CONSTELLATION IN WINTER (5)
- 3 FIRST TWO STAR TYPES OF MAIN SEQUENCE STARS (1, 1)
- 4 MAJOR STAR IN URSA MAJOR (5)
- 5 A PARABOLIC REFLECTOR HAS THIS TYPE OF SURFACE (8)
- 6 SIXTH MOON OF SATURN (5)
- 7 REDUCTION OF INTENSITY OF LIGHT BY ABSORPTION OR SCATTERING (11)
- 10 ENGLISH AMATEUR ASTRONOMER (1799-1880) WHO DISCOVERED FOUR SATELLITES, TRITON, HYPERION, ARIEL & UMBRIEL (7)
- 14 A SATELLITE DOES THIS AROUND THE EARTH (5)
- 15 PEACOCK - SOUTHERN CONSTELLATION (4)
- 16 7th SATELLITE OF SATURN (7)
- 18 14th SATELLITE OF JUPITER (5)
- 20 LAST LETTER IN GREEK ALPHABET (5)
- 22 A STAR CLUSTER CAN BE THIS (4)

XWORD 17



SOLUTION TO CROSSWORD 16

ACROSS

1 SPACE SHUTTLE, 8 MIRA, 9 NAGLER, 10 POINTERS,
11 POLE, 13 SUNOIAL, 14 TAYGETA, 17 CANAL,
19 ELEMENT, 21 RAY, 22 ASTROBIOLOGY.

DOWN

1 SUNSPOT, 2 ALGOL, 3 SERPENT, 4 URSID,
5 TECTONICS, 6 EMERSON, 7 EARTH, 12 EAGLE,
15 AGENA, 16 ARNEB, 18 AIRY, 20 EYE

ASTRONOMY CROSSWORDS

R. A. LOBBETT

OVER THE LAST COUPLE OF YEARS I HAVE PUT TOGETHER SEVERAL CROSSWORDS RELATIVE TO ASTRONOMY. I HAVE HAD SOME INTERESTING FEEDBACK FROM OASI MEMBERS I SEE ON A REGULAR BASIS. I WOULD BE INTERESTED IN ANYONE WHO HAS ANY COMMENTS TO MAKE. IN PARTICULAR IS IT TOO HARD? IS IT TOO EASY? DO YOU ATTACK IT - IF NOT WHY NOT? - WOULD ANOTHER TYPE OF QUIZ/PUZZLE BE BETTER - LIKE THE OPEN DAY ONE!?

I HAVE TRIED NOT TO USE CRYPTIC CLUES BECAUSE I FELT IT WOULD REDUCE THE NUMBER OF PARTICIPANTS TO ASTRONOMERS WHO WERE GOOD AT CROSSWORDS. I CAN PRODUCE BETTER CROSSWORD LAYOUTS (REF. XMAS 87) BUT I HAVE FOUND IT TAKES TOO MUCH TIME (WITHOUT MY OWN WORDPROFESSOR). I HAVE THEREFORE COMPROMISED ON THE LAYOUT AND TIME TAKEN TO COMPILE THE XWORD. HAVE YOU FOUND THIS COMPROMISE SATISFACTORY OR WOULD YOU PREFER A BETTER, MORE CONSISTENT LAYOUT?

THE CLUES MAY BE A BIT VAGUE IF THE ANSWER IS EASY BUT IN GENERAL I HAVE TRIED TO STIMULATE PEOPLE INTO RESEARCHING ABOUT 50% OF THE ANSWERS.

I HAVE ALSO WRITTEN FREELY FROM THE LATIN NAME, GENITIVE (ORIGIN) & TRANSLATED NAMES OF DIFFERENT ASTRONOMICAL FEATURES, PARTICULARLY WITH THE CONSTELLATIONS.

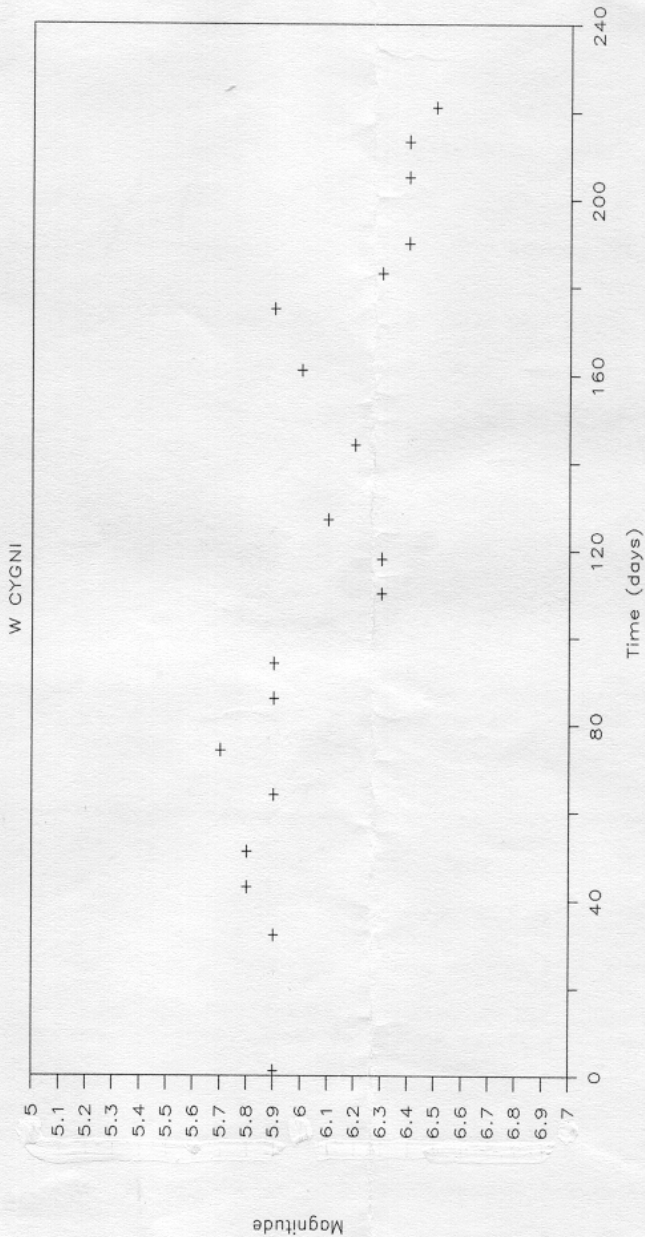
<u>LATIN NAME</u>	<u>GENITIVE</u>	<u>TRANSLATION</u>
CYGNUS	CYGNI	SWAN
LEO	LEONIS	LION
SCORPIUS	SCORPII	SCORPION

THE GENITIVE IS RARELY USED, CLUES OFTEN ASK FOR THE LATIN NAME, GIVEN THE TRANSLATION OR VICE VERSA.

I HAVE NOTICED THAT I MAINLY USE THE FOLLOWING REFERENCES (EVEN THOUGH I HAVE A LOT MORE AVAILABLE)!

- 1) PENGUIN DICTIONARY OF ASTRONOMY (BELIEVED OUT OF PRINT)
- 2) AMATEUR ASTRONOMY POCKET SKYGUIDE BY MARK R. CHARTANO III.
- 3) MACMILLAN DICTIONARY OF ASTRONOMY
- 4) CURRENT HANDBOOK OF BRITISH ASTRONOMICAL ASSOCIATION.
- 5) LAROUSSE ASTRONOMY
- 6) OBSERVERS BNS OF MANNED & UNMANNED SPACEFLIGHT
- 7) THE MOON - BY PATRICK MOORE
- 8) ANYTHING TOPICAL IN THE ASTRONOMY MAGAZINES OR PERSISTENT TO THE TIME OF YEAR.

VARIABLE STAR OBSERVATIONS



PROGRAMME FOR MARCH

Mondays from 8pm		GENERAL OBSERVATION SECTION	
20-27 6-13	Mr R Newman	[Redacted], Felixstowe, IP11 9DY.	Tel. Fel. [Redacted]
	Mr J King	[Redacted], Felixstowe, IP11 9LQ.	Tel. Fel. [Redacted]
Tuesdays from 8pm		GENERAL OBSERVATION SECTION	
21-28 7-14	Mr R Newman	[Redacted], Felixstowe, IP11 9DY	Tel. Fel. [Redacted]
	Mr J King	[Redacted], Felixstowe, IP11 9LQ	Tel. Fel. [Redacted]
Wednesdays from 8pm		NEBULA AND FAINT OBJECTS SECTION	
22-29 1-8-15	Mr M Cook	[Redacted], Ipswich. IP4 5PZ	Tel. [Redacted]
	Mr D Payne	[Redacted], Wickham Market.	Tel. [Redacted]
Fridays from 8pm		GENERAL OBSERVATION SECTION	
24-31 3-10-17	Mr P R Richards	[Redacted] Ipswich, IP4 1QB.	Tel. [Redacted]
	Mr M Harlow	[Redacted], Trimley IP10 OXB.	Tel. [Redacted]
	Mr R A Lobbett	[Redacted], Felixstowe.	Tel. [Redacted]

All nights are open to all members, but, on nights other than Wednesday ring directors to confirm dates. [Directors will also be able to inform you of whether a group visits is taking place that evening.] All numbers Ipswich (0473) unless otherwise indicated.

1989 COMMITTEE

CHAIRMAN	D Payne	(Address above)	Home: [Redacted] Work: [Redacted]
VICE CHAIRMAN	D Barnard	(Address above)	Home: [Redacted] Work: [Redacted]
SECRETARY	R Gooding	[Redacted], Ipswich, IP1 6AE.	Home: [Redacted]
TREASURER	M Nicholls	[Redacted], Capel St Mary, Ipswich, IP9 2EX.	Home: [Redacted] Work: [Redacted]
MAINTENANCE	M Cook	(Address above)	Home: [Redacted] Work: [Redacted]
JOURNAL CO-ORD	E Sims	[Redacted], Ipswich IP1 4HA	Home: [Redacted]
LIBRARIAN	P Richards	(Address above)	Home: [Redacted] Work: [Redacted]
EQUIPMENT CURATOR	J King	(Address above)	Home: [Redacted]
SPECIAL EVENTS CO-ORD	A Smith	[Redacted], Ipswich IP2 9ES	Home: [Redacted]