

The evening of Christmas Day 1980 was fine and clear. I remembered reading an account by J.H. Elgie, a North country Edwardian amateur astronomer that he could see the Great Bear at lower culmination on this day at 4.50pm. I ventured out at this time and did just that, as he did 73 years ago.

After dark the sky was very clear and could not resist this rare English event for telescopic work. Firstly I was to make an observation of COMET MEIER with the 20cm spec (f4), but the altitude was getting low and I could not see it. I thought of using the 31cm (f5) spec to locate it, but it was too low for this, so that saved me that trouble. With the 20cm f4 spec, I considered obtaining a set of observations of Comet STEPHAN-OTERMA, now in southern Auriga, but this could wait as there was plenty of time.

Using this telescope with x35, I settled down to a comet sweep at 1755UT, starting at 3 Vulpeculae to iota Draconis sweeping northwards. I was troubled by a distant mercury vapour street lamp shining through the boughs of several leafless trees. A sheet attached to two poles pushed into the ground put a stop to that. But this was not the end of it. A strong wind was tearing at the sheet and keeling over the poles. So once again I had to leave the eyepiece and push the poles into the ground further. Peace returned at last and sweeping continued. The star fields towards the galaxy were gorgeous. The M56 went by the field bright and clear. Sometime later a dim "M56" was located in a field of faint stars. This immediately aroused my suspicion as a stranger, as I had a rough idea where it was by the length of the sweep. On looking through the finder and seeing epsilon Lyrae near the centre of the field, I knew I had a suspected COMET. This was at 18.50UT.

I fixed the position and checked all my charts for nebulae and clusters at this spot. Finding none of these objects charted I looked up all the ephemerides of known comets around, and then the M.G.C.

I could not detect any motion after 15 minutes but was not unduly worried. After giving the information to Michael Hendrie, Director of the B.A.A. Comet Section, he immediately took a photograph of the region when the altitude was becoming very low and almost hopeless and confirmed my discovery.

I would also like to thank the following members of the B.A.A. for their cooperation on this Christmas night. George Alcock for verifying the find. Harold Ridley who checked out his past photographs of the immediate area, and to Stan Milbourn who cabled the I.A.U.

I began my first comet sweep on the evening of July 22nd 1947, using a three inch refractor, x22. Since then, and using a variety of instruments, have spent a total of 601 hours and thirty minutes searching on 699 nights.

Three more new comets have also been missed by only a few degrees of sky.

- 51, Old Road, Walgrave, Northampton, England.

EDITORIAL:

I must confess that I never envisaged compiling an issue as Editor which included two comet discoveries by our own readership. To Bill Bradfield we extend our heartiest congratulations on his eleventh comet as he continues on his way to becoming one of the greatest comet discoverers of all time.

To Roy Panther, we also extend our congratulations to an observer who deserves his success with 1980u from the long years of perseverance and dedication. As with nova searching, many hundred hours can go unrewarded but Roy illustrates the maxim of all true dedicated searchers that they never give up, even when a discovery is missed by a degree or so! I hope, as Editor, that I shall be able to welcome other members of our readership into the discovery lists! The skies await you!

ANNUAL STATISTICS: Would readers please submit their annual weather/observing reports to Jeremy Bullivant, to reach him by the end of Jan, so that a summary may be prepared for the next issue.

CONTRIBUTIONS: I am very conscious that there is a considerable backlog of unpublished material including misc, doubles, asteroid transits etc. Space has been against us coupled with the avalanche of discoveries and observable comets, supernovae, novae of late. We shall clear the backlog as soon as possible and please continue to send in the reports.

Guy M Hurst.

COVER REPORT

1862 APOLLO: Brian Manning.

1980 November 27, 2057-2107UT. Tri-X. Ortho with cold camera. Breaks in trail caused by cloud! Distance from right end of trail to double star at left approx 1 arc minute.

TURUN URSA OBSERVATORY: Please see separate article elsewhere in this issue.

December Cover Note: The photograph by Ron Arbour of SN in NGC 6946 (labelled 'B') was a 5 min exposure on FP4.

NOVA/SUPERNOVA SEARCH PROGRAMME

Guy M Hurst.

Honda's Variable in Cygnus

According to a report by J Mattei, AAVSO, this possible nova was bright on three of 24 randomly selected Harvard photographic plates, namely 1945 Nov. 6, 1946 Aug 6 and 1950 Nov 6. Between 1938 and 1951 the object varied in brightness from mag 14 to approx mag 10. There is a bright red image on the Palomar Sky Survey.

Prior to receipt of this news, G.M. Hurst detected a PRE-DISCOVERY image on a UK Nova Patrol Photograph by J.T. GRILLS (Kincote, Lutterworth) as follows: 1980 Nov. 2.92UT, 12.1 (approx pv, PRE-DISCOVERY); Dec. 6.90, 10.0; 27.83, 10.4 (POST-DISCOVERY results from photos by Grills).

These photos were obtained with 135mm fl lens operating at f4 on Tri-X film. The pre-discovery result was from three exposures on Nov. 2 and identification was aided by microscopic polaroid photos of the original negatives provided by R. Arbour. (Observers' Bulletin No 7).

Supernova in NGC 6946; approximately 50+ results received are currently being analysed and will be reported in TA Feb. The object faded to mag 14 by the end of 1980 and large aperture observers are urged to continue securing estimates for as long as possible.

Comet 1980t has been 'recovered' after conjunction with the sun by G.H. Hurst on 1981 Jan. 10.754UT. Using 15x80B, the comet appeared to be close to the predicted place and of magnitude 4.9, some 5° above the western horizon. A tail, $\frac{3}{4}^{\circ}$ long fanned out in PA 10° - 25° .

Comet Panther (1980u)

Roy W. Panther, Walgrave, near Northampton reports discovery of a comet; a detailed personal account of discovery night appears elsewhere in this issue. Congratulations from this column on the success:

1980 UT	R.A. (1950)	DEC (1950)	m1 Observer
Dec. 25.788	$18^h 46^m 7^s$	$+38^{\circ} 54'$	10 Panther.
27.96	18 48.0	$+39^{\circ} 26'$	9.7 Morris
		TA E.W.C. 46/47	IAUC 3556.

Observations follow:

Dec. 25.79UT (DISCOVERY). Mag approx $10\frac{1}{2}$ in 20cm f4 spec at x35. Round, diffuse coma, diameter $5'$. Slight central condensation. (Panther).

Dec. 27.22UT Mag 10.0 in 31cm spec f5 x60. Circular, diffuse coma, diameter $3'$, gradual brightening to centre. Small, moderately bright central area. (Panther).

Dec. 27.75UT Mag 9.5 in 20cm spec f4 x35. Round coma, total dia. $2\frac{1}{2}'$. Moderate central condensation, DC 3. Small condensation to centre with 31cm spec x120. No nucleus. (Panther).

Dec. 27.75UT Mag 8.8 in 20x80B. Fairly small quite bright diffuse patch $2\frac{1}{2}'$ dia with a small more intense centre. Straight tail for at least $10'$ in PA 003° . With 13cm f5 OGx60, outer edges of coma very diffuse and fanned towards northwest with diffuse tail pointing towards north, DC 5. (Keitch).

Dec. 27.77UT Mag 9.8 (instrument?-Ed). Small, diffuse, irregular shape with no obvious tail. Coma dia $3'$, DC 3. (Bush).

Dec. 27.79UT Mag $9\frac{1}{2}$ -10 in 60mm OG. Approx $20''$ dia. (Dowdell).

Dec. 27.82UT Mag approx 10 in 32cm spec, dia $1'$. Bright nuclear region 10 - $15''$ dia. (Swan).

Dec. 28.76UT Mag 9.4 in 26cm spec x80. Coma dia $3\frac{1}{2}'$. Well condensed, large, circular coma, standing high magnifications well, DC 5. Inner condensation approx $30''$ dia. Star mag 12 on northern edge. (Hurst).

Dec. 31.79UT Mag 9.5 in 20cm f4 spec at x35. Almost round diffuse coma, slight central condensation, DC 3. Total dia $4'$. Small sharp brighter condensation to centre. (Panther).

The following precise positions secured by Brian Manning (Stakenbridge) have been telexed to the I.A.U.:

1980 Dec. 27.76076	$18^h 47^m 55^s 60$	$+39^{\circ} 22' 27''.5$
27.78993	18 47 56.34	$+39^{\circ} 22' 52''.1$
27.83819	18 47 57.90	$+39^{\circ} 23' 34''.1$

Photographs obtained with 26.5cm reflector and show a nuclear region of mag 12.

Brian Marsden telxes the following elements and ephemeris:

T = 1981 Jan. 28.374 ET

w = 106.82)
 Ω = 331.19) 1950.0
 i = 82.37)

q = 1.6366 AU.

Jan. 16	18 ^h 59 ^m .1	+45°46'	Earth 1.741	Sun 1.645	Mag approx 9
21	19 02.5	+48 04			
26	19 06.1	+50 41	1.645	1.637	
31	19 09.9	+53 39			

AURORAL NOTES

Edited by D. Gavine.

Pekka Parviainen has sent the year's aurora observations of the Finnish network (himself, Harry Lehto, Ari & Seppo Salminen, Tapani Savolainen) which I shall add to the general list to be distributed to Canada and New Zealand. If any other aurora networks exist I would be interested to hear from them.

At Vadsø (70°N 30°E) all-sky storms were seen on 1980 Jan 1/2, 2/3, 3/4 and a lesser aurora on 4/5. From the neighbourhood of Turku (60°15'N, 22°07'E) displays were reported on Feb 6/7, (a good one) Apr 11/12, July 25/26, Aug 21/22 (from North Finland), 25/26, 29/30 (corona), Sept 12/13 (rays beyond zenith), and Oct 31/Nov 1. The July 25/26 display was also observed at Helsinki by David Frydman who noted radio effects on 9 MHz at about 2200 UT followed at 2250 by a rayed arc then 2301-2305 bright rays showing red, to the zenith. By 2317 the brightening sky made the rays difficult to see.

The aurora has not been venturing further south recently, and tends to be of the quiet type associated with coronal holes. Jeff Clark at Stromness, Orkney, (58°58'N, 3°18'W) reported extensive light on on Nov 27/28, 28/29 and Dec 5/6.

Andy Stevens, Leith Nautical College, and colleagues had a major radio aurora event on Dec 19/20 but it was overcast in Scotland.

Neil Done at Campbeltown (55°25'N, 5°36'W) saw glows on Dec 26/27 and Dec 31/Jan 1 (the height of dedication!) and on Dec 30/31 near Kirriemuir, Angus, (56°40'N, 3°W).

George Spalding reported a low homogeneous arc, brighter in patches and with a possible hint of small rays.

SOLAR NOTES

Edited by John Colls.

1980 September to November --- Sunspot Activity

Additional IDF reports:		n	s	tot	days
September	K. Singh	3.90	3.40	7.40	24
October	K. Singh	3.38	4.00	7.38	16
November	K. Singh	3.85	3.08	6.93	13
	K. Medway	4.92	3.00	7.92	12
	J. Dragesco	3.71	2.75	6.46	28
	G. Johnstone	5.00	2.33	7.33	3
	Dundee AS	2.00	3.50	5.50	6
	Norwegian AS	4.75	3.00	7.75	14
	Amended Means	4.11	2.91	7.02	

K. Malde and two colleagues observed a total of 21 active regions, of which 7 were visible to the naked eye. He rates the overall activity as moderate to high in the north, moderate in the south, Observations were limited to 14 days by bad weather and low sun.