Obituary

Harold B. Ridley, 1919-1995

Harold Bytham Ridley, who died on February 3 this year, was born at Richmond upon Thames in the southwest of what is now Greater London, on 1919 February 22. He was the youngest of six, three boys and three girls. Some years later the family moved to nearby Twickenham where he attended the Orleans Boys School. On leaving school he took clerical jobs in the building materials and site-preparation trades.

The United Kingdom entered World War Two in 1939 September and Ridley joined the Army in October of that year. He served first with a Royal Artillery searchlight battery, and soon showed his aptitude as a lecturer and teacher, qualifying as an instructor. He was interested in the sound location and radar equipment which controlled the searchlights. During the long hours of inactivity, Harold taught himself mathematics, read a great deal and acquired a wide vocabulary. He also studied electrical engineering during this time. All these things helped to lay a sound foundation of practical knowledge that was to be so useful to him in later life. Later in the war, as demands for manpower changed, he was transferred to the infantry as an instructor and spent time at Colchester Barracks.

Demobilised in 1946 February, Harold was accepted on a teacher training course at Eastbourne and was there from 1946 to 1948. Taking up teaching as his chosen profession, he taught general science subjects and biology at Westcliff-on-Sea, Spring Grove, Isleworth, Midhurst and finally at West Byfleet where he remained until retirement, having risen to head the Science Department.

Harold had been interested in astronomy from an early age and made his first recorded observation, of a meteor, at the age of thirteen. During his war service he talked about the stars to the men in his hut and George Mawson still remembers how Harold pointed out the constellations to him one frosty night on their long walk back to camp from an evening meal in Faringdon.

Harold Ridley was elected a member of the Association on 1946 March 27 and was elected to fellowship of the Royal Astronomical Society in 1953.

Meteor observations

Harold soon joined the Meteor Section and took part in the visual observation programmes run by the then Director J. P. M. Prentice. After his spell of teaching in Westcliff-on-Sea, Harold obtained a teaching appointment at Isleworth and, as the family home by then had been sold, he moved into a house in Barnes with his sister Mollie. Harold's interest in photography was almost as old as his interest in astronomy and at one time he considered it as a career. It was natural, therefore, that when he at last had a garden of his own, he should start to develop his interest in astronomical photography.

Meteors can be photographed with simple fixed cameras requiring no driven mounting or guiding and Harold built several using Kodak Aero Ektar and Ross Xpres lenses. The large photographic plates needed to make full use of the wide fields were relatively cheap. In this photographic work he was greatly encouraged by E. H. Collinson. In 1953 he became Secretary of the Meteor section and in 1954 was appointed its Director, an office he held until 1968. At this time few meteor spectra had been obtained and Harold built a meteor spectrograph using a 30 degree prism. On 1954 October 29 he was rewarded with the spectrum of a bright Taurid, the first meteor spectrogram to be obtained from this country. One of two Perseids in 1955 showed one of the earliest recordings of the forbidden neutral oxygen line. The spectrum of a Perseid taken with S. J. Evans in 1991 was his fifteenth and last meteor spectrogram. He was meticulous in his efforts to reduce these spectra and those of other observers, so as to obtain the maximum information from what were often small, faint and grainy images.

Ridley attended the Meteor Commission's meetings at the IAU in Dublin in 1955. At the Association's 1956 November meeting he reported on the findings of the Harvard Super-Schmidt programme, supported by work done in the Soviet Union and Czechoslavakia, that the Perseid radiant was fairly sharp. The Section's visual observations over many years had shown a much more diffuse radiant. He said that while it was hard to have to accept that visual observers, himself included, had been misled over the degree of accuracy obtained in their observations, the results of the photographic work were conclusive and that future radiant work should be photographic.

In the light of these findings Ridley redefined the Section's programme of work which he explained at the 1957 June meeting. Briefly visual work would concentrate on magnitudes and hourly rates, correlation of visual and radar rates, reporting fireballs and new showers and telescopic meteors. Radiant, orbit and spectrographic work would be photographic. These conclusions were supported by Professor A. C. B. Lovell at Jodrell Bank in a private communication. Some members of the Section found this hard to accept at the time but the programme Ridley set out then has stood the test of time.

Of the world's meteor spectrogram total of about 200, the BAA had by 1957 provided ten. During his tenure of office Ridley maintained a correspondence with many world authorities in the meteor world including P. M. Millmann and I. Halliday in Canada. He organised major observing programmes and deduced photographic radi-

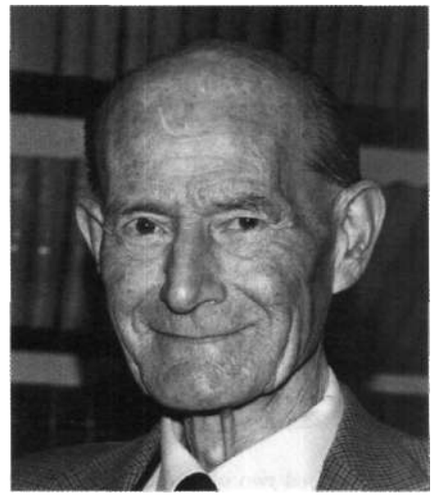


Photo of Harold Ridley in 1990 by Jacqueline Mitton

ants for the following showers: 1955 Geminids, 1956 Perseids and Geminids, 1958 Perseids and Geminids, 1959 Quadrantids, 1960 Quadrantids and 1962 Perseids.

Meteor streams and associated comets

Harold Ridley also suggested possible meteor activity associated with certain Earth-orbit-crossing comets. In the case of comet Rudnicki 1967 II no meteors were seen and the shower associated with P/Grigg-Skjellerup failed to materialize in 1972, but a significant shower now called the Pi Puppids was seen in 1977 and at 5-yearly intervals since. He proposed the link between the Phoenicids and comet Blanpain 1819 IV and enhanced activity of the Leonids in 1965 and 1966. Meteors associated with P/Schwassmann-Wachmann 3 have yet to appear. His final prediction, made in 1987 but unpublished, was for a meteor shower associated with P/Hartley 2 1985 V which should be visible around 1997 November 9.

Comet observations

In 1960 April comet Burnham 1960 II was predicted to reach naked eye brightness and, as Dr R. L. Waterfield had to be away, he asked me if I would operate his Ascot Observatory in his absence. Photographing a fast-moving comet with this telescope

Outside R.L.Waterfield's observatory at Silwood Park, near Ascot in 1960. *(M. J. Hendrie)*

really required two observers, and Harold readily agreed to join me for a few days. Our best exposures were on the morning of the 27th. To centre the image in his enlarger, Harold decided to cut off one edge of the glass plate with a diamond cutter, fortunately for us without accident. Slides were made and shown at the Association's meeting that same evening. Though only 4th magnitude, comet Burnham showed an unusually narrow tail eleven degrees long on our plates and we were both inspired to greater effort by this opportunity to use first class equipment.

Harold took up a teaching appointment in Midhurst that November living at Rogate but he was not there long enough to set up a proper observatory. In 1963 he took a teaching post at West Byfleet, moving to a house in Godalming where he was to live until his retirement in 1979. A larger garden provided room for a fixed instrument. However, his first priority was not to build the observatory but to convert his garage to a fully equipped darkroom. Here he was able to make the large, blemish free prints for which he was well known. Only when this was completed did he start on the construction of an observatory with a 3.6m aluminium dome housing a 12cm refractor on loan from the Association. Later this carried a variety of small cameras with which he started his long series of driven exposures of objects in the night sky.

While Harold never lost his interest in meteors, he took an increasing interest in comets and was now able to photograph them with his own instruments. This interest remained his first priority for the rest of his active life. He moved to East Chinnock near Crewkerne, Somerset in 1979. There he had what he had always wanted, a good dark site with a low skyline (except to the north) in a quiet and beautiful setting. His best driven photographs were taken during these years when he used a 15cm refractor to guide a series of cameras, culminating in the Zeiss 18cm aperture f/7 lens which he used until observing became impossible for him.

Again Harold first equipped his darkroom, using this time a redundant generator room and building an enlarger that would give full and even illumination over a 10x13 cm plate. After taking up astrometric work on comets he borrowed a Zeiss plate measuring machine from the Association so as to get the best possible results. He was a perfectionist and spared no effort to make the best possible use of his opportunities. Harold Ridley was a photographic observer at heart. While he had a keen eye for plotting meteor trails he did not, to my knowledge, make pictorial drawings of comets or planets. He did obtain reliable magnitudes of comets and novae: otherwise, when not guiding a photograph, he looked through the telescope for the pleasure of the moment.

Writing and lecturing

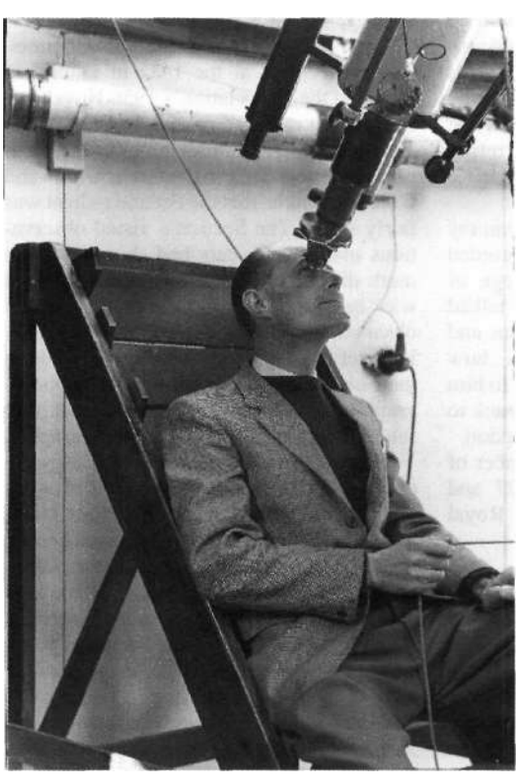
Observing, photography and building instruments were not Harold's only interests in astronomy and he wrote many reports, reviews, papers and articles as well as lecturing widely to the Association, local groups, the WEA and other societies. He spoke frequently at meetings, usually without notes, and had a very clear manner of explaining things. His talks were always well illustrated, often with his own slides. His two Presidential Addresses were a wide-ranging review of our current knowledge of 'Comets' (1977) and 'Meteorites' (1978), a subject not previously chosen.

Harold Ridley's contributions to the *Journal* and Section publications were far too many to list in full but mention must be made of his valuable series of Comet 'Prospects' in which he examined the background and previous performance of all known comets expected to be visible in the next two years ahead, giving elements of orbits, dates of visibility, expected magnitudes and other data. This involved a great deal of work each year and was a valuable asset to the Comet Section.

Honours and service to the Association

Harold Ridley was awarded the Merlin Medal in 1978 for his photographic work and the Walter Goodacre Medal and Gift in 1992 for his work on comets and meteors. In 1990 minor planet 4025 was named after him.

Ridley served the Association in a number of capacities and apart from directing the Meteor Section (1954-68), was President (1976-78), and a Vice-President 1978-81, 1982-85 and 1990-92. He was an ordinary member of Council in the years 1986-87, 1989-90 and 1993-94. Because of his wide knowledge of the Association's affairs he was often consulted on unusual problems facing the Association from time to time, when his knowledge of what had gone before was most valuable. He also served on a number of committees relating to the Association's affairs.



At the eyepiece in R. L. Waterfield's observatory. *(M. J. Hendrie)*

Harold was Secretary, then Assistant to the Director and later Photographic Coordinator to the Comet Section from 1971 until his death, and during the 1986 apparition of Halley's Comet he acted as Coordinator for UK amateur photographic observations for the International Halley Watch.

Apart from his work for the Association he supported *The Astronomer* from its early days and his photographs of comets, asteroids, novae and supernovae appeared regularly there as they did in our *Journal.*

Other aspects of his life

Aside from astronomy and photography, Harold Ridley had an almost

Comet Iras-Araki-Alcock 1983 VII on 1983 May 10.99, moving at 2 arcsec/second. A 15 minute exposure guided on the comet, on a Kodak 103a-F plate with a 50cm focal length f/6.3 Ross lens. *(H. B. Ridley)*

Comet Levy 1990c, 1990 August 23, 22.07 UT. 30 minute exposure on T-max 400 with the Zeiss 1.2m focal length f/7 lens. *(H. B. Ridley, courtesy of M. P. Mobberley)*

encyclopaedic knowledge of garden and wild plants and their botanical names; his pot plants were a speciality and I still have some. He was also knowledgeable about other living things, especially the smaller specimens we call 'insects' though his interest was by no means limited to the six-legged variety. He had kept bees, stick and other insects at school and often looked after them at home through the long summer holidays. He had a fine collection of butterflies. He liked to listen to the cricket commentaries and *The Times* crossword was something that once started had to be completed.

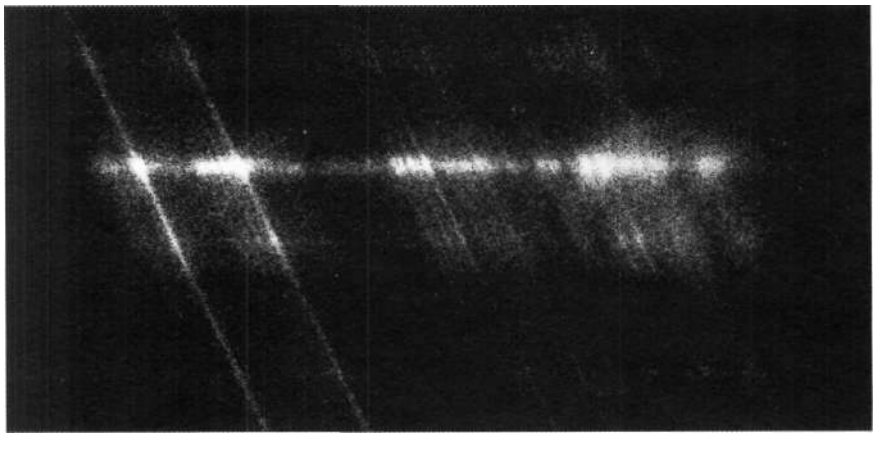
Harold Ridley was by nature a quiet and rather reserved man who did not push himself forward, but once consulted would give all the help and useful advice that he could. He was perhaps a little difficult to get to know but once you knew him you found a warm personality with a keen sense of the ridiculous: he had no time for humbug. With the exception of Doris who lives in Zimbabwe, to whom we extend our sympathy, all his brothers and sisters pre-deceased him. His sister Mollie with whom he shared a home for more than thirty years died in 1988. Harold had been told that he had emphysema by 1986 but it was 1992 before it really began to affect his ability to carry on a normal life. His last observation, a photograph of nova Cassiopeiae 1993 on 1993 December 21, appeared in the *Journal.*

Harold Ridley spent several spells in Yeovil and Crewkerne hospitals during 1994 and went back to Crewkerne just before Christmas 1994 where he remained until his death on 1995 February 3, just short of his 75th birthday. He greatly appreciated the letters and phone calls that kept him in touch with his friends and what was happening in astronomy in which he never lost interest. He will be sadly missed for his friendship, good humour, high standards and sound advice.

Acknowledgements

I would like to acknowledge the assistance of those who have provided or checked facts for this obituary. Walter Hunt provided extensive notes especially on Harold's family and early life in Twickenham, George Mawson interesting recollections from Harold's army days and Bud Leitch from his teaching career. Steve Evans has provided valuable advice especially on meteor matters. I also consulted Howard Miles about aspects of Harold's work for the Association. My thanks go to them all.

Michael J. Hendrie



Spectrum of a bright Taurid meteor, the first meteor spectrogram secured in the UK. 1954 October 29 with an 18cm focal length f/2.5 Kodak Aero Ektar lens and a 30° objective prism. *(H. B. Ridley)*

References

This is a selection of H. B. Ridley's more important contributions to the *Journal* of the BAA:

1 Re his 1954 October Taurid spectrogram, 65(2), 70(1955)
2 Meeting report on Perseid photographic radiant, 67(2), 54 (1957)
3 Photographs of Taurid spectrum and spectrograph, 67(8), 300 (1957)
4 Communication 'The value of visual observations of meteors', 68(3), 110 (1958)
5 'Phoenicid shower of 1956 Dec 5', suggested connection with comet Blanpain 1819 IV, 72(6), 266 (1962)
6 'Possible meteors from comet Rudnicki 1966e', 77(4), 260(1967)
7 'A possible meteor shower associated with comet P/Grigg-Skjellerup', 82(2), 95 (1972)
8 Out of town meeting, 'Comet Discoveries', **88(1),** 5(1977)
9 Presidential Address, 'Comets', 88(3), 226 (1978)
10 Presidential Address, 'Meteorites', 89(3), 219 (1979)
11 First pictorial *Journal* cover; photograph of comet Austin 1982g, **93(1),** (1982)
12 Review article, 'Comets', 95(1), 29 (1984)
13 'The Photography of Comets', 95(1), 8 (1984)
14 'The Photography of Halley's Comet', 95(2), 81 (1985)
15 'Meteors associated with comet P/Schwassmann-Wachmann 3', **100(2),** 92 (1990)
16 with S. J. Evans, 'The spectrum of a Perseid meteor', **103(1),** 27(1993)
17 'The spectrum of a sporadic fireball', **104(1),** 32 (1994)

Except where otherwise mentioned, all photographs with this article were supplied by M. J. Hendrie.