

WILLIAM BRADFIELD (1928 – 2014)

William Bradfield, a legendary comet hunter passed away after a long illness, leaving behind an unmatched legacy of comet discoveries.

The international astronomy community lost one of its greatest comet hunters with the passing of William Bradfield on June 9, 2014 at the age of 86. Bradfield was known not only for his 18 visual comet discoveries, but for all 18 Comet-Bradfields only, i.e. not having a co-discovery shared with any other comet hunter; a feat unmatched in comet hunting history.

William Bradfield was born on June 20, 1927 in Levin on New Zealand's North Island, and spent his early life on his farmer father's 160-acre farm. Bradfield went on to obtain his bachelor's degree in mechanical engineering with an aeronautical option at the University of New Zealand. He had already decided he wanted to get involved with rocket work. Moving to Australia from New Zealand in 1951, he was employed for the Australian government as a research scientist on rocket-propulsion systems, at the Department of Defence's Weapons Systems Research Lab near Woomera. During his career, he had met a fellow employee, Eileen, whom he married in 1957, with whom he had three daughters, Katherine, Carol, and Jennifer. Bradfield lived in Dernancourt, a suburb of Adelaide, South Australia, since 1953, and moved to Yankalilla outside Adelaide in 1995.

Bradfield's childhood fascination for astronomy was stimulated when he was still small aged around 12 or 14 and lived on his farm. What brought him back into his astronomy life was the business of Sputniks. In 1957 when Russia launched Sputnik 1, Bradfield was among the millions of people with the Moonwatch operation.

In 1970 when he joined the Astronomical Society of South Australia (ASSA), his interest furthered. He purchased an antique (100 year old) 6-inch f/5.5 telescope, which back then cost him \$60. His inspiration towards comets came by the Great Southern Comet of 1947, next by the brightest comet of the century, Comet Ikeya-Seki of 1965. The splendour of the very bright Comet Bennett in early 1970 rather struck Bradfield's desire to find a new comet. Bradfield remembers seeing Comet Bennett with the telescope and saying, "*OK, if Bennett, an amateur astronomer from South Africa could find a comet that eventually turned into a spectacular object, perhaps I can find a comet too. And this is supposed to be a comet hunting telescope*". He continues, "*It may be rough and ready, but you don't need a chrome plated telescope to discover a comet*". So armed with this short-focus refractor telescope, he set about doing a regular search on January 1, 1971 – he began hunting for comets from his backyard. In his early days of comet hunting, Bradfield was spending more time – typically up to 200 hours per year, with further additional time being spent under the clearer skies of summer.

Bradfield had found his first comet C/1972 E1 (Bradfield) from his backyard in Dernancourt, after 260 hours of comet hunting. What followed next were nearly a dozen and half comets in the years 1974, 1975, 1975, 1976, 1976, 1978, 1978, 1979, 1979, 1980, 1984, 1987, 1989, 1992, 1992, and 1995. It was only after a drought of 9 years that he could snatch his final and 18th comet discovery in 2004; the 18th christening of William Bradfield's name on it. It had taken him over 3500 hours of comet hunting to place his name on the celestial interlopers. A remarkable fact of his comet discovery C/1980 Y1 (Bradfield) was that it was done using only a 7x35 mm binocular!

In 2004 received the *Edgar Wilson Award* for his discovery of C/2004 F4 (Bradfield). He was awarded with a *Member of the Order of Australia* in 1989 for his services to science. The *Berenice Page Medal* of the ASSA was awarded to Bradfield in 1981 for his contribution to the discovery and understanding of comets.

The main-belt asteroid *3430 Bradfield* (1980 TF4) discovered on October 9, 1980 by Carolyn S. Shoemaker at Palomar Observatory is officially dedicated to him.



Image Credit: Stefan Beck, www.cometchaser.de

Amar A. Sharma is working on the history of comet hunting and biographies of comet hunters for his ongoing encyclopaedia. He has been ardently aspiring to make a documentary film on the surviving comet hunters, of whom William Bradfield was a part!