

# BILL BRADFIELD, COMET HUNTER EXTRAOR

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***Bill Bradfield, who passed away on June 9th, was one of the most prolific and elite comet discoverers.***



Bill Bradfield, seen with his unusual comet seeker in a photograph taken in 1976.

*S&T: Dennis di Cicco*

William A. Bradfield, the mild-mannered comet hunter of South Australia, died on June 9, 2015. Each of the 34 comets he discovered visually and credited to him alone, puts him among the most prolific and elite comet hunters in history. Only the French observer Jean-Louis Pons (1761-1831) achieved more solo finds (22 comets) in his lifetime. Brooks (1844-1921), with 18 comets that were his alone, is the only other astronomer in the same category.

Yet Bill Bradfield didn't even take up comet hunting until his mid-40s. Born in New Zealand in 1923, he moved to Australia, in 1953, where he began his career as a rocket-propulsion engineer for the Australian Space Research Institute, an astronomer as well, but off and on. Then in 1970, when Comet Bennett vaulted into the predominate comet too."

By 1976 Bradfield was already a celebrity, having made six comet finds in as many years. That was at his home in Dernancourt, a suburb about six miles northeast of Adelaide center. We'd arrive at his home at night for all night comet hunting! The telescope was still in the back of his stationwagon, and he gl...



Here Bradfield holds the antique 6-inch lens that served as the objective of his comet seeker. At lower left is the telescope. He used this telescope to discover all his early comets.

*S&T: Dennis di Cicco*

We weren't quite prepared for the contraption we saw. He'd purchased it from Ralph Sangster in South Australia, who had cobbled it together from unfinished boards and spare parts of every...

We soon realized, however, that this was a device superbly suited for finding comets. The giant for portrait photography, had an aperture of 6 inches. A war-surplus Erfle eyepiece provided be raised or lowered to let the observer stand comfortably at the eyepiece.

Then Bradfield did what he always did for visitors, letting us in on some of his secrets. He showed over his large star charts and plot, for reference, his own horizon at the start of morning twilight. A template over, he could plot the horizon that observers in Japan would have the same night. He had competitors, and he'd always sweep areas of sky visible to them first. Only later would he look in the Southern Hemisphere.

While none of his comets gave us the jaw-dropping spectacle of a Comet Bennett, West, or Halley. They've been of scientific interest, too. Spectra of C/1974 C1, taken at Wise Observatory in Italy, showed water in a comet. Ground-based instruments revealed C/1979 Y1 to be one of the gasiest comets. The International Ultraviolet Explorer satellite were puzzled not to find any trace of ionized carbon. C/1987 P1, had an abnormally high dust-to-gas ratio.



Bradfield photocopied charts in his star atlas and pasted them to a plywood backing for use at the telescope while observing. *S&T: Dennis di Cicco*

Bradfield found his last comet in 2004, and it was his best. After it rounded the Sun (whose glare it avoided), C/2004 F4 entered the morning sky. As comet expert John Bortle (Stormville, New York) recalled, it was a sight, with a bright 3rd-magnitude starlike head and a very long, narrow, and wispy tail that could be seen for hours.

None of Bradfield's 18 comets will return to the Sun's vicinity anytime soon. (That is, none will be visible to us here on Earth, either, to see another visual comet hunter as persistent, clever, and successful as Bill Bradfield.)

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*NOTE ADDED 7/14/2014:* Bill Bradfield talks about his search techniques and telescopes in an interview with Martin McKenna for telling us about this.)

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*To read more about Bill Bradfield and his comet-seeking telescope, see the [original article in](#)*