

S. CAMERON JAY (1929-2008)

TRIBUTE AND BIBLIOGRAPHY

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A Tribute

Dr S. Cameron ("Cam") Jay, Emeritus Professor of Entomology, died suddenly on 28 April 2008 at the age of 79 years.

Cam was born at Lauder, Manitoba, and attended school in Hamilton, Ontario. In 1949, he graduated with the highest standing from a teacher training course at Hamilton Normal School. The next six years were spent teaching school in Hamilton. While teaching, Cam took evening courses at McMaster University, and received a B.A. in English Literature, and the Director's award for highest standing. Notwithstanding this, he had sufficient spare time to meet and marry Doreen, his wife and partner of 56 years.

In 1955, Cam resigned from school teaching, and after a brief flirtation with forest entomology, began a bachelor's degree in agricultural entomology at the University of Manitoba. Those were heady days in the Department of Entomology, with such people as Reinhart Brust, Glen McLeod, Dieter Peschken, Ted Radcliffe, Dave Smith and Maurice Tauber among the student body. Cam graduated in 1958, this time with the University Gold Medal for highest standing among B.S.A. graduates.

One summer near the end of his degree programme, he was assigned the penance of looking after the Department's apiary, a task which was particularly distasteful because Cam was frightened of bees! Mostly he watched through binoculars from a safe distance. However one day, he and Doreen set out to retrieve a swarm that had alighted on a tree branch; this bravery was founded on a textbook's statement that bees in swarms do not sting. Cam climbed the tree and tied a rope to the branch. Doreen, who was eight months pregnant, held the rope, so that when Cam sawed through the branch it could be gently lowered to the ground. All went well until the sawing was complete. Then the rope broke, the branch and swarm crashed to the ground, the swarm flew up and landed beside Cam, and Doreen abandoned Cam to his fate and took refuge in the truck. The seconds of juxtaposition of Cam and the swarm on the tree branch were momentous. Would Cam suffer first stings, and then broken bones as he fell from his perch? Or had the bees read the book? Cam was startled to find that the latter was the case, and at that moment his fascination with bees began.

Cam and Doreen moved to Guelph, which was then an outpost of the University of Toronto. There, under the supervision of Maurice Smith, Cam completed a M.Sc. on the life history of honey bees. In 1959, the Jays moved to Rothamsted, England, so that Cam could pursue Ph.D. studies on honey bee biology. This research was directed by Drs. C. Butler and J.B. Free. In 1961, Cam and Doreen and their growing family returned to Manitoba, where Cam held a faculty position in the Department of Entomology until his retirement in 1991.

During his career in the Department, Cam's first priority was teaching. His lectures in the course "Introductory Entomology" provided such an exciting introduction to the world of insects that the course was a major source of undergraduate and graduate students for the Department. In addition, Cam taught introductory and advanced courses on social insects. In 1980, as a result of nomination by his students, he was awarded the Olive Beatrice Stanton Award of the University of Manitoba for excellence in teaching.

Cam's achievements in research were also impressive, and ranged from work on fundamental aspects of bee biology through to studies directly applicable to beekeeping practice. Cam's largest efforts and biggest impacts were in the improved management of honey bees for honey production and crop pollination. Cam realized that studies on basic bee biology could be applied to help commercial beekeeping operations in North America. His early findings on growth and development of immature bees in their brood cells are very relevant to today's problems of utilization of brood by varroa mites. His discovery of the role of brood pheromones in suppressing worker ovary development provided a foundation for current pheromone research. His laboratory's basic studies of colony population growth were used to determine optimal population (package) size, the best timing of colony establishment to maximize honey production, and the factors affecting loss of bees when colonies are established or moved. These studies also showed how various management manipulations can affect queen loss, elucidated how to rear and time the introduction of queens for optimal success, and demonstrated how to winter colonies of bees on the Prairies. His studies of orientation of bees focused on how to reduce movement of bees between hives in commercial apiaries. This was a major contribution that reduced labour inputs for honey producers, increased honey production, and lowered transmission rates of parasites and pathogens. In addition to his studies of bee orientation in Canada, Cam studied the same processes in the southern hemisphere, during a sabbatical leave in New Zealand and Australia.

Cam's work on pollination with honey bees was equally diverse. In Canada, this focused on pollination of faba beans and canola, and he and his research associates developed pollination systems for the first commercial hybrid canola seed production fields in western Canada. During sabbatical leaves, he worked on coconut pollination in Jamaica and kiwifruit pollination in New Zealand.

While Cam's research focus was the biology and management of honey bees, he also responded to industry requests to tackle bee diseases such as *Nosema*, and to assess effects of mosquito control programs on bee mortality. He also worked on other species of bees with important results. For example, one of Cam's first graduate students worked on native species of bumble bees and upon graduation, joined the faculty of the University of Toronto, where further research led to domestication of bumble

bee species now used in commercial green house pollination. Cam also carried out a program that helped establish a viable leafcutting bee and alfalfa seed production industry in Manitoba.

Cam published over 75 refereed publications, and near the end of his academic career published in Annual Reviews of Entomology on one of his favourite research topics, the spatial management of honey bees on crops. In addition to his own research, he trained a total of 24 graduate students in research. Former students went on to research positions with universities or with Agriculture and Agri-Food Canada, and extension positions with several provincial governments.

Cam has had an enormous impact on Canadian beekeeping through his teaching and research and also through his extension efforts. Cam made a point of sharing his knowledge directly with beekeepers. He offered numerous courses for commercial beekeepers, and for 29 years, taught a course for hobby beekeepers. In the summer he was constantly on the 'phone to individual beekeepers to try to solve their problems and had close friendships with many of them. Again, his expertise was not restricted to Canada. He spent 15 months leading a C.I.D.A. apiculture development project in Kenya, and in that period radically changed and improved apiculture in Kenya through the introduction of the moveable frame hive. For his extension activities, he was recognised through a University of Manitoba Outreach Award, and the beekeeping industry conferred numerous local, national and international awards, including the Bee Hive Award of the Manitoba Beekeepers' Association, Honorary Life Membership in the Manitoba Alfalfa Seed Producers Association, the J.I. Hambleton Award of the Eastern Apicultural Society of North America and the Fred Rathje Memorial Award for outstanding contributions to the Canadian Bee Industry. His achievements were also recognized by the University of Manitoba Alumni Association through a Jubilee Award. In 1999, an Award of Excellence for "Outstanding Contributions to Canadian Beekeeping Development" was conferred upon him at the international beekeeping conference, Apimondia.

Cam contributed to Canadian Entomology in many ways. He served on many committees of the Entomological Society of Canada and he was an active member of the Entomological Society of Manitoba. He served as president of ESM in 1968–69. Similarly he served the Canadian Association of Professional Apiculturists as both president and committee member. For his service to Canadian Entomology and Apiculture, he was elected a Fellow of the Entomological Society of Canada in 1985.

At least as important as the formal achievements was Cam's personality. As a Department Head and colleague, he was forever supportive and cognizant of the needs and aspirations of those around him, and took endless pains to reach the best decision for all concerned. His steady influence brought consensus on many contentious issues, and so he was much sought after as a chairperson of committees and conferences. The Jay home was a centre of hospitality and camaraderie for staff and students for many years.

Cam had a quirky sense of humour and an outlook on life which was a tonic to all around him. His classes, and colleagues, were treated to a continuous barrage of "jokes," most of them real "groaners." He was known to appear in the classroom bedecked in yellow striped sweater, and appropriately appendaged – the only known

specimen of *Apis mellifera jayensis*. Also, costumed as a skunk, he would “spray” passing cars, or invade the classes of colleagues to complain about “lectures that stink.” He loved to dress in an old Santa suit and tour the neighbourhood by horse and cutter, visiting the local children. For years he rode an ancient bicycle, on which he sat rigidly upright. At various times, persons unknown “decorated” the bicycle, yet Cam always managed to preserve an air of dignity as he rode his steed to and from work amid a cloud of ribbons and flags.

Cam’s retirement was filled with activity. He and Doreen travelled widely in North America in their 5th wheeler. They operated a tree farm for many years. Cam volunteered with the Canadian Cancer Society, the Winnipeg Christmas Cheer Board, and Habitat for Humanity. The latter allowed him to indulge his penchant for building things, which extended to building an A-frame cottage, a hangar for his planes, a sun room for his house, and many minor projects.

Cam was devoted to Doreen, to their three daughters and son, and to his grandchildren. He marked his 30th, 40th and 50th wedding anniversaries by renting a road-side bill-board proclaiming his love for Doreen. Cam loved the outdoors, and shared canoeing, hiking, snowshoe or ski expeditions with his children and grandchildren, and with generations of boy scouts. Many gained their first introduction to nature during these trips, and remember them fondly, apart from the food — a gourmet cook Cam was not! Cam rebuilt a 1949 monoplane from a written-off wreck and flew it for 35 years. One of his early retirement projects was to fly to Alaska, but he turned back in the face of smoke from forest fires in Saskatchewan. More recently, he acquired an open-cockpit biplane which he flew from southern Ontario to Winnipeg — an epic journey lasting almost three weeks. Less epic were his “Flying Pizza” flights, in which he would circle an ice fishing hut in mid-winter until he was sure that it was occupied, and then land on the ice nearby, and ask the occupants if they had ordered pizza. He had a specially-marked (empty) pizza box with him, and used this ploy to “break the ice” and strike up friendships in the most unlikely places.

Cam’s light-hearted and self-deprecating manner made it easy for all to forget that he had been an outstanding student, an inspiring teacher, a researcher who made profound differences in his field, and a dedicated supporter of apiculture and entomology.

To honour these accomplishments, the Department of Entomology has established a scholarship to be awarded to a graduate student doing research in apiculture, pollination biology or the study of social insects — the areas of Cam’s studies.

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