

Ruby Larson (1914-2011)

Canada lost one of its most remarkable biologists on 13 February 2011 when Dr Ruby Ida Larson passed away in a nursing home at Stony Plain, Alberta, aged 96. Ruby was a cytogeneticist with the Lethbridge Research Station of Agriculture and Agri-Food Canada where she researched ways to make wheat plants more resistant to insect herbivores. Two recent articles in the *Bulletin* made mention of Ruby and her contributions to entomology: David Larson (no relation) wrote about Ruby in his 2005 Heritage Lecture (37 [4]: 186-195) and then an article on Ruby from the June 2009 Monthly Report of the Agricultural Institute of Canada was reprinted in 2010 (42 [1]: 31-32). However, there is an important message in the life story of Ruby Larson and her contribution to the mentorship of young people that warrants this special tribute.



Ruby started her working career as an impoverished elementary school teacher in southern Saskatchewan where she became aware that children learned best when presented with material in an engaging interactive way and that self-discovery was a key teaching strategy. While a school teacher, she took a summer course in biology from Jake Rempel at the University of Saskatchewan which piqued her interest in biological research. She completed her MA at the University of Saskatchewan and PhD at the University of Missouri, becoming a cytogeneticist working on resistance of wheat plants to insects. However, once she established her research program at the Agriculture Canada Research Station in Lethbridge, Alberta, she couldn't resist the urge to be around young people and stimulate their developing a lifetime passion for learning. She did this by starting a science club in the mid 1950's and inviting boys in a typical blue collar neighbourhood in south Lethbridge to her basement apartment on Saturday mornings to experiment and learn about the natural world. As word spread about this amazing lady and her enthusiasm for science, the number of participants grew to eight – far too many for an apartment. Her solution was to buy a house, turn its basement into a laboratory with work benches for microscopes and experiments in chemistry and physics, and start the Junior Science Club of Lethbridge. The club grew to about 16 members with a president, secretary and treasurer. New members were chosen after giving a presentation and answering questions about science. Young minds needed books and Ruby bought so many that one basement room became a library and one member was appointed librarian. Years later when the boys outgrew the club, she started another where all the members were girls.

What is remarkable about the original group of boys is that most went on to university. For example, two became medical doctors, one became a civil engineer, two became teachers, one was a Rhodes Scholar in architecture and three became entomologists! However, it is the fostering of three entomologists that makes the legacy of Ruby Larson noteworthy for readers of this Bulletin.

I was one of the three entomologists who, amazingly, all came from families within three blocks of Ruby's new home. I joined the club after my neighbour and friend Alex Brosgart took me to meet Ruby in her basement apartment in the spring of 1958 when I was 12 years old. If meeting her wasn't enough of a life-turning event, a field trip in August the same year did the trick. On several occasions that summer she loaded five boys into her car on Saturday mornings and drove country roads in search of interesting insects and plants. On one trip, she stopped her car near a patch of willows and showed us 'pineapples' at the tips of the stems. She suggested that we pull back the tightly packed leaves and examine the base of the growths. I remember locating an orange larva at

the base of one swelling and asking Ruby if the larva played a role in its making. She said that it did and when I asked her how an insect could make such a thing, she suggested that I find out on my own. Fifty two years later, I am still trying to explain how insects work their magic on plants inducing a wide range of structurally distinct galls!

The other two entomologists were Ken Richards and David Larson. Thanks to Ruby, Ken developed a boyhood interest in bumblebees and studied them for his MSc and PhD. Similarly, Ruby fostered David's interest in carabids and dytiscids which lead to his MSc and PhD. Ken became a researcher on bee biology with Agriculture and Agri-food Canada in Lethbridge and then Saskatoon, while David and I became university professors, David at Memorial University in St. John's and I at Laurentian University in Sudbury. David is now retired on a ranch south of Maple Creek, Saskatchewan, where he spends his spare time studying and collecting grassland insects. Thanks to Ruby, none of us tired of studying, writing, photographing, and talking about insects, and to this day, we never stop wondering what Ruby would have thought whenever we make a new discovery or unravel some entomological secret.

David Larson and I wrote the introductory chapter in the recently published Biological Survey of Canada book entitled 'Arthropods of Canadian Grasslands. Volume I: Ecology and Interactions in Grassland Habitats' and dedicated it to Ruby. I visited Ruby at her nursing home in Stony Plain in July 2010 prior to the book appearing, but I was able to show her the galleys. Even at the age of 96, there was a sparkle in her eyes as we reminisced about the days in the mid-1950s when she watched her science club boys race across the prairies with insect nets in search of painted lady butterflies or tiger beetles.



Ruby was a charter member and honorary member of the Entomological Society of Alberta. In memory In 1997, the Entomological Society of Canada awarded her the Criddle Award and the Entomological Society of Alberta presented her with the Carr Award, both in recognition of her role in amateur entomology. In 1977, she was awarded an honorary DSc from the University of Lethbridge. I remember Ruby telling us that successful scientists make connections with many others and that attending conferences was one of the most exciting aspects of being a researcher. To this end, she took us to meetings of the Entomological Society of Alberta when held in Lethbridge. The picture

on page 187 of the Larson (2005) article shows some of the club members (three future entomologists in the back row) attending one of these meetings. Ruby also explained that entomologists were among the most extroverted of all scientists and that engaging in friendly dialogue and sharing stories about insects provided one of life's greatest joys. She emphasized the importance of helping others, somewhat similar to the way she helped young boys in Lethbridge. Years later, her eyes lit up when we told her of our own experiences by following in her footsteps. For example, I took delight in telling her how one day in the early 1980s, a young lady in the second week of her university career knocked at my door and asked if I was an entomologist. When I told her I was, she replied that she also wanted to become an entomologist and asked for my help. I gave her bench space in my lab that same day and she worked as a summer assistant for the 4 years of her undergraduate program. She took an interest in two species of leaf miners on Sudbury birch and I remember her wondering if the larvae fed in a similar manner. Just like Ruby, I suggested she undertake a research project and find out on her own. This she did and wrote a paper (*Can. Ent.* 117 [1985]: 351-362) on structural damage by sawfly miners after her 3rd undergraduate year. She left for her MSc at the University of Saskatchewan and then to Northern Arizona University for

her PhD, remarkably studying the same pineapple gall on willows shown to me by Ruby in 1958. This student was Rosemarie DeClerck, currently the Second Vice-President of our Society.

Further to the importance of establishing connections, Rose married Kevin Floate, a young entomologist at the University of Saskatchewan with a large beetle collection. Today, they are both employed as scientists at the Lethbridge Research Centre, Rose researching the biological control of weeds and Kevin the control of pests associated with cattle wastes. Both Rose and Kevin met Ruby on many occasions and then coincidentally, Kevin and I edited the first volume of the Biological Survey of Canada's book on grassland arthropods.

The connections continued when Kevin taught a course in entomology at the University of Lethbridge. One of his students, Monica Sliva, was keen on plant-feeding insects and Kevin and En souvenir de Rose suggested she come to Laurentian to study galls for her MSc. Monica completed her thesis in 2005 and left to work at a provincial park in southern Alberta. That summer, the editors of a southern Alberta magazine called "Lethbridge Living" contacted me to say they were preparing the third article on the life of Ruby and, if I was in southern Alberta, they would photograph Ruby and me for the cover. It turned out that I was participating in a BioBlitz at nearby Waterton Lakes National Park and arranged for Monica to meet Ruby and the editors. The editors were amazed by the connections between Ruby, Rose and Kevin, and myself – all started one day in 1958 when a keen adult showed a young boy an insect gall on a willow. Monica joined Ruby and I for the cover story and then the three of us spent a long evening talking about the joy of helping children learn about insects. Monica left southern Alberta to take education at Simon Fraser University and, following in Ruby's footsteps, is now a school teacher in Burnaby, British Columbia.



We often forget that children have a natural empathy for insects which gives entomologists an extraordinary advantage compared to scientists in other disciplines. This is so evident whenever one takes a drawer of mounted insects to a classroom of elementary students or a group of girl guides or cubs for boys. Although it is unlikely that an enthusiastic agricultural scientist today will convert their basement to laboratories and start a science club that spawns three entomologists, the legacy of Ruby Larson rests in the recognition that good things happen when enthusiastic adults spend time with young people explaining the wonders of the natural world. There are potential entomologists in their pre and early teens in all the neighbourhoods of Canada and it is up to us to emulate Ruby Larson and nurture them along.

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