

*IN MEMORIAM***James Kezer**

Dr. James Kezer, Jim to his friends, passed away last January 4, 2002, at the ripe old age of 93. Jim was an extraordinary person, by many measures, a passionate music lover, a devout teacher and a late blooming research scientist. In 1938 he entered graduate school at Cornell University but interrupted his studies to serve as bacteriologist and serologist with the US troops in France during WWII. Upon return, he pursued the doctorate at Cornell where he adapted the “squash technique” of the plant cytologists to study the meiotic chromosomes of salamanders with great success. His microphotographs of amphibian meiosis to this day adorn many a textbook of biology. After a short tenure at the University of Missouri, Jim went to the University of Oregon Biology Department, where he established a dynamic general biology course and stayed till his retirement in 1975. He continued to do research with his students and colleagues for 15 more years and published papers until 1991.

During his many years at the University of Oregon, Jim devoted his life to classical music, specially opera, his garden in Emerald Street and the general biology course for undergraduate students. He was renowned for his enthusiastic appreciation for all life forms specially amphibians. He was an experienced hiker at home in the Cascades Mountains of Oregon as well as in the Talamanca Range of Costa Rica. In the early 70s, as he was relieved from the heavy commitment to general biology, Jim established a lampbrush chromosome lab and discovered that oocyte ring nucleoli could be broken up with DNases, providing the first evidence in 1964 that nucleoli contained DNA (this data was reported by J. Peacock in 1966). Jim joined forces with a new breed of younger scientists that were bringing molecular techniques into the field of cytology to start an era of fruitful inquiry, combining exquisite cytology with labeled probes. With Herbert Macgregor, from Leicester, England, he described the centromeric location of satellite DNA in *Plethodon cinerius* with some of the most spectacular hybrids done at that time. With Pomerat and Seto, Jim did one of the first cinematographic studies of meiosis that turned him into a real connoisseur of meiosis in amphibians, later discovering in salamanders a diffuse stage during the first meiotic prophase.



Late Dr. Jim Kezer when he was 53 –year– old at Oregon coast near Coos Bay on 18th of March 1962.

Jim first came to Costa Rica to analyze meiosis in tropical plethodontids, as a host of the Organization for Tropical Studies (OTS), at a time when the OTS consortium was housed in a modest office at the School of Microbiology at the University of Costa Rica campus. Jim was convinced of the existence of sex chromosomes in salamanders and had been sampling plethodontid species from Appalachia and from both coasts in the USA. Under a microscope that he borrowed from the microbiology department, his hunch came true, he discovered the XY-sex chromosomes of the plethodontid *Oedipina*, a paradigmatic case of extremely heteromorphic sex chromosomes. Later he and Stan Sessions would find similar sex pairs in other plethodontids from Central America. While attempting to isolate DNA from these salamanders he and Macgregor discovered enucleated erythrocytes in some species of *Oedipina* and in other plethodontid species, a feature independently derived from the mammalian condition and very rare among vertebrates.

A group of friends from around the world, former students and colleagues from the UofO, took Jim's ashes up to Hidden Lake in the Cascade Mts. of Oregon, where he often trekked searching for newts and *Batrachoseps*. We did what we thought would have pleased him, returning his last remains to the places he loved most and remembering his remarkable demeanor as friend and teacher. It was perhaps as the Chilean poetess Maria Luisa Bombal put it "*Ves hijo, la muerte también es un acto de vida*". For those of us who were tutored by Jim, his life to the very end was featured by a profound acceptance of the universe as science has revealed it, without devils or gods meddling with the life of people. What an amazing testimony! He delighted in understanding the processes of evolution, in particular, the evolution of chromosomes-the phenotype of the genotype. He was above all a sincere and enthusiastic teacher, who held nothing back from his students and delighted in so doing. He will be missed.



Jim at his office on middle of March 1963.

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