

Janice Britton-Davidian passed away on 02 August 2017, after having fought with an admirable courage against an aggressive cancer. She was 66.

After an early education in Mexico and a bachelor of arts in languages and literature obtained while at the university of Texas Austin, she moved to Montpellier to specialize in animal biology in 1975. She did a PhD in population genetics under the supervision of a paleontologist, Louis Thaler, and participated to the building of the first French Institute for Evolutionary Sciences (Institut des Sciences de l'Evolution de Montpellier, ISEM). She contributed to the development of the genetic pole of the ISEM by first, in her early career, pioneering the use of allozyme markers (with Nicole Pasteur) to the understanding of population genetics and systematics of animal species. Mentored by Louis Thaler, she contributed to the renewal of the taxonomy of mice by reinstating *Mus spretus* as a good species in the mid-1970s, kicking off decades of evolutionary studies on genus *Mus* in Montpellier. Bringing her expertise as a population geneticist to a multi-disciplinary group of evolutionary biologists, she has been instrumental for the success of this Institute, and the development of Montpellier evolutionary community, which rapidly became a leading European center in Evolutionary Biology.

She then gradually specialized on mice and moved to the study of chromosome evolution and its role in speciation becoming a leading scientist in this field of research. Although she did all her career in the ISEM, she engaged in active and enriching reciprocal exchanges with colleagues in France and abroad (from Berkeley (USA), Stellenbosch (South Africa) to Monastir (Tunisia) and Lisbon (Portugal), which led to fruitful collaborations, exciting projects and results, and training programs inspiring several generations of students and researchers. She was passionate and dedicated, and anyone that worked with her was impressed by the intensity of her commitment to science.

Her work on chromosomal evolution left an indelible imprint in the fields of cytogenetics and evolutionary genetics and has greatly contributed to our current understanding of the role of chromosomal evolution in adaptation, speciation and genome evolution.

It is hard to reduce Janice's career to a few achievements. But her work on Robertsonian fusions in populations of the house mouse made a major contribution to the understanding of the origins and evolutionary consequences of chromosomal rearrangements. Over her vast scientific career, there has been a gradual shift from Patterns to Processes, nourished by her infinite scientific curiosity. Among other findings, she described several Robertsonian systems (populations of wild mice with less than 40 chromosomes due to centric fusions), in particular the one on Madeira Island. She studied the effects of these chromosomal rearrangements on recombination rates, on gene flow, and on speciation processes. More recently, she also investigated the structures and compositions of the centromeres, and their contribution to genome reorganization. In parallel, she discovered the unusual sex determination system of the African pygmy mouse, where most of the females are sex-reversed, i.e., XY, due to a third feminizing sex chromosome.

Despite her recent retirement and the serious health issues, she remained active and involved until the end, keeping coming to the lab and working on scientific drafts between two chemotherapies. The last paper that she wrote was accepted last June in Biol J Linnean Soc "*Does chromosomal change restrict gene flow between house mouse populations? Evidence from microsatellite polymorphisms*"

Janice was a great scientist and a remarkable woman. She was an endearing, genuinely generous, and always enthusiastic person. Janice will be remembered for her sense of humor, the selfless support she gave to her colleagues and students, and her involvement at the collective level. She was discreet by nature, but anywhere she went, she left an incredible souvenir of an absolutely unique, lovely, deeply friendly, and inspiring person. Those who have had the unique privilege of knowing her personally, working with her, and learning from her, feel the void she left behind. But many of us follow in her footsteps and perpetuate her passion for evolution and chromosomes.

She will be sorely missed, more than words can say.

Frederic Veyrunes, Carole Smadja, Guila Ganem, Jean-Christophe Auffray

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