



## OBITUARY: Janice Britton-Davidian (1950–2017)

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OBITUARY

## Janice Britton-Davidian (1950–2017)

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Janice Britton-Davidian, recently retired CNRS Research Director, passed away in August 2017 after a year-long battle with cancer. She has left a rich scientific legacy through her work in understanding chromosomal evolution, meiotic recombination and sex determination of rodents, principally the ubiquitous house mouse, *Mus musculus* and pygmy mouse, *M. minutoides*, species that now serve as model taxa in studies of small mammal cytogenetics.

Janice obtained a Bachelor's degree in 1970 from the University of Texas, Austin, TX. However, it was her early introduction, in France, to the use of enzyme electrophoresis under the direction of Dr. Nicole Pasteur and Professor Louis Thaler that set the course of her future research. This was at a time when molecular methods were being introduced into population biology and, as part of her master's degree, she spent a brief period with Robert Selander (Rochester, NY)—one of the first biologists to apply molecular genetic approaches to the study of genetic population structure of natural populations, including those of the house mouse. On the completion of her Doctorat d'Etat (the French higher university degree) at the University of Montpellier II in 1985, Janice spent 18 months with Professor JL (Jim) Patton at the Museum of Vertebrate Zoology, Berkeley, CA. It was this exposure to a multidisciplinary research environment that was to influence her life's work and, importantly, her decision to remain and subsequently make a foundational contribution to the development of the Institut des Sciences de l'Evolution de Montpellier (ISEM), now widely regarded as a premier European centre for evolutionary biology. Janice's initial focus on allozymes gradually expanded to include chromosomal evolution which, combined with her

abilities as a population geneticist, led to her becoming a leader in this field of research. She was a pioneer in understanding the behavior of nascent chromosomal rearrangements and their effects on recombination rates, on gene flow, and their role in chromosomal speciation. The most visible of her publications appeared in *Nature* (403: 158) in 2000 and it has subsequently served as an example of rapid chromosomal radiation in numerous undergraduate biology texts around the world. Additionally, she made major contributions to our understanding of the structure and composition of centromeres and their contribution to chromosomal reorganization, and to the genetics of sex through her work on sex determination of the African pygmy mouse, where most of the females are XY due to a third feminizing sex chromosome. In recognition of the high international regard in which she was held, she served on the Advisory board of *Chromosome Research* and was regularly an invited speaker at international conferences, workshops and colloquia.

Janice gave willingly of her time and expertise through almost four decades of service to the ISEM where she served in various capacities including Head of the Division of Genetics and Environment (1999–2010). She was widely perceived as a leader of the French cytogenetics community, evidenced by her piv-

otal role in establishing the CNRS network on chromosome structure and evolution (GDR “Cytogénomique Structurale et Evolutive”, 2006–2010). Janice was a patient advisor and a generous and committed collaborator (it was through her leadership that the work on the African pygmy mouse was initiated, initially in South Africa, and later in other parts of its distribution). She was a role model, mentor as well as supervisor to numerous postgraduate students, guiding many through to successful independent careers. At all times selfless in her interactions, she endeavored to advance the careers of others both within her group and beyond, particularly in francophone African countries.

We write this obituary with deep sadness and also with great respect for the quiet, unassuming person whose courage, wry sense of humour and cheerfulness in the face of adversity was truly remarkable. She completed her final manuscript in February 2017 (accepted in the *Biological Journal of the Linnean Society*) shortly before her death, and it will, together with her many achievements, be an enduring tribute to the sense of purpose that was a hallmark of her extraordinary life and career. She will be profoundly missed by her many friends, colleagues, and collaborators.