

# This Week's Citation Classic

CC/NUMBER 24  
JUNE 13, 1983

**Lindsley D L & Grell E H.** *Genetic variations of Drosophila melanogaster.* Washington, DC: Carnegie Institution, 1968. 472 p. Publication no. 627. [Biology Division, Oak Ridge National Laboratory, Oak Ridge, TN]

This book is a compilation of all genetic variations reported for the fruit fly, *Drosophila melanogaster*, through 1967. It contains descriptive material on over 3,000 mutations, some 1,500 chromosome rearrangements, and sundry other special chromosomes and combinations of chromosomes. [The SCF<sup>®</sup> indicates that this book has been cited in over 1,935 publications since 1968.]

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April 19, 1983

"In 1944, Calvin B. Bridges and Katherine S. Brehme<sup>1</sup> published the first compendium of known mutations and chromosome rearrangements in *Drosophila melanogaster* to appear since a review of the genetics of drosophila by Morgan, Bridges, and Sturtevant published in 1925.<sup>2</sup> By 1960 their volume, *The Mutants of Drosophila melanogaster*, was out of date and out of print, and there was a need for a revised edition. Sometime in 1963, when I was a member of the Biology Division of the Oak Ridge National Laboratory, I received a telephone call from Edward Novitski, then a member of the Genetics Society of America's Committee for the Maintenance of Genetic Stocks, asking me whether Ed Grell and I would undertake such a revision. We felt we could do the job within two years, so we accepted; it took us five years of full-time effort.

"This publication is not a report of a scientific experiment; rather it is a dictionary of genetic material used in drosophila research. We were plagued with the unforeseen necessity of making innumerable arbitrary decisions in matters of nomenclature and format. Although our predecessors had established conventions, we encountered many situations in which they were inadequate. Initially, we agonized over each deci-

sion, but in the end became quite cavalier in the matter. The conventions of nomenclature established in the book are in standard use today. We were fortunate in also having the editorial talents of Lucille Norton, Eileen Slaughter, and Elizabeth VonHalle, who were of enormous assistance in processing the several stages of manuscript production. The final manuscript was a gigantic deck of IBM type cards, each one containing a single line of the text, varityped in final format. These cards were then mechanically passed before a camera and photographed, producing a camera-ready negative for the printer. We chose this system because it allowed the manuscript to be easily updated by adding, subtracting, or rearranging cards; it was obsolete before we finished. Because its production was heavily subsidized by the Oak Ridge National Laboratory and it was published at cost by the Carnegie Institution of Washington, the book was initially available for \$3.00 per copy.

"This volume appeared at a time when its predecessor had become unavailable; furthermore, its appearance coincided with a shift in emphasis of modern genetic research from prokaryotic to eukaryotic systems, among which *Drosophila melanogaster* was the genetically best-known example. The 1970s witnessed a tremendous resurgence of interest in drosophila as an experimental system, which was at least to some degree stimulated by the availability of our compilation, and which in turn accounts for its frequent citation. No worker can function effectively without the Red Book as we call it, and ready access to it is a *sine qua non* for aspiring drosophila geneticists. However, the explosion of information in the 14 years since its publication has dated the book; consequently, Georgianna Zimm and I have undertaken a revision. More recent work can be found in references 3 and 4. I suspect that this book was a crucial factor in my election to the National Academy of Sciences."

1. **Bridges C B & Brehme K S.** *The mutants of Drosophila melanogaster.* Washington, DC: Carnegie Institution, 1944. 253 p. Publication no. 552.
2. **Morgan T H, Bridges C B & Sturtevant A H.** *The genetics of Drosophila.* 's-Gravenhage, the Netherlands: Martinus Nijhoff, 1925. 262 p.
3. **Ashburner M & Novitski E,** eds. *The genetics and biology of drosophila.* London: Academic Press, 1976. Vol. 1. Parts A-C.
4. **Ashburner M & Wright T R F,** eds. *The genetics and biology of drosophila.* London: Academic Press, 1980. Vol. 2. Parts A-D.