

## SEX DETERMINATION IN CREEPING VOLE

Chromosomal sex determination varies among the different classes of chordata. For birds, see this [Trends in Genetics](#) review. In mammals, the XY system is almost omnipresent; the Y chromosome contains the sex determining gene (SRY) and a few other functional sequences. Indeed, in its evolutionary trajectory, the Y has lost the vast majority of its genes compared to its X partner. Jennifer Graves, in her seminars, often joked that the Y chromosome is small, almost useless, and has no evolutionary prospects; it will be lost. This is exactly what has been hypothesized for the Y chromosome of the rodent creeping vole (*Microtus oregoni*). [Couger et al.](#) in their recent article in *Science*, by sequencing the sex chromosomes of *Microtus oregoni*, were able to reconstruct the evolutionary history of the system. The Y chromosome has actually been lost, and the sex-determining chromosome is highly homologous to the X. Consequently, females are X0 and males XX (the second X carrying SRY). They were also able to show that the male X chromosome has already begun the well-known degeneration that occurred in the mammalian Y chromosome. The X0 / XX system also has implications for X inactivation in order to ensure a functional balance.