

Mystery of the shrinking Y chromosome solved

Several genes have been lost from the Y chromosome in humans and other mammals but essential Y genes are rescued by relocating to other chromosomes, according to a new study.

The Y chromosome is dramatically smaller than the X chromosome and has already lost nearly all of the 640 genes it once shared with the X chromosome.

An extreme example of genes disappearing from the Y chromosome can be found in the Ryukyu spiny rat, which is indigenous to a single island in Japan. In this species, the Y chromosome has disappeared completely, with many Y-linked genes moving to either the X chromosome or non-sex chromosomes (autosomes). Until now, this was thought to be a peculiarity found in one isolated species, but new data suggest that the phenomenon of genes moving from sex chromosomes to autosomes is widespread among mammals, including humans.

Lead author Jennifer Hughes from the Whitehead Institute, USA, said: “Genes that have survived on the Y chromosome are extraordinarily long-lived and likely serve important biological functions. However, there are numerous exceptions where seemingly critical genes have been lost from the Y chromosome in certain mammals. In many cases, these genes were not actually eliminated but have found new homes in the genome.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: [Sex Chromosomes: Why The Y Genes Matter](#)