

POLYPLOIDY IN ANIMALS

Redundancy in data storage is a safe rule that you learn when your computer breaks down (see [RAID5](#)¹). This is also true in living organisms. The most likely explanation for the fact that each of us has ~200 non-functional (homozygous) genes is that they are redundant².

Polyploidy can be considered a redundant state of the genome. It is relatively common in plants and "Plants with double genomes might have had a better chance to survive the Cretaceous–Tertiary extinction event" ([PNAS](#))³. A larger quiver of arrows certainly comes in handy.

Polyploidization is much rarer in animals than in plants. Kyle T. David, in [PNAS](#)⁴, analyzes the biogeographical dataset distribution of polyploidy in amphibians, ray-finned fishes, and insects. He found that polyploidy correlates with newer and more extreme environments and may indicate the role of genome duplication in facilitating adaptation. As mentioned, a larger quiver of arrows is definitely beneficial.

1-<https://en.wikipedia.org/wiki/RAID>

2-<https://www.nature.com/articles/nature15394>

3-<https://www.pnas.org/doi/abs/10.1073/pnas.0900906106>

4- <https://www.pnas.org/doi/10.1073/pnas.2214070119>