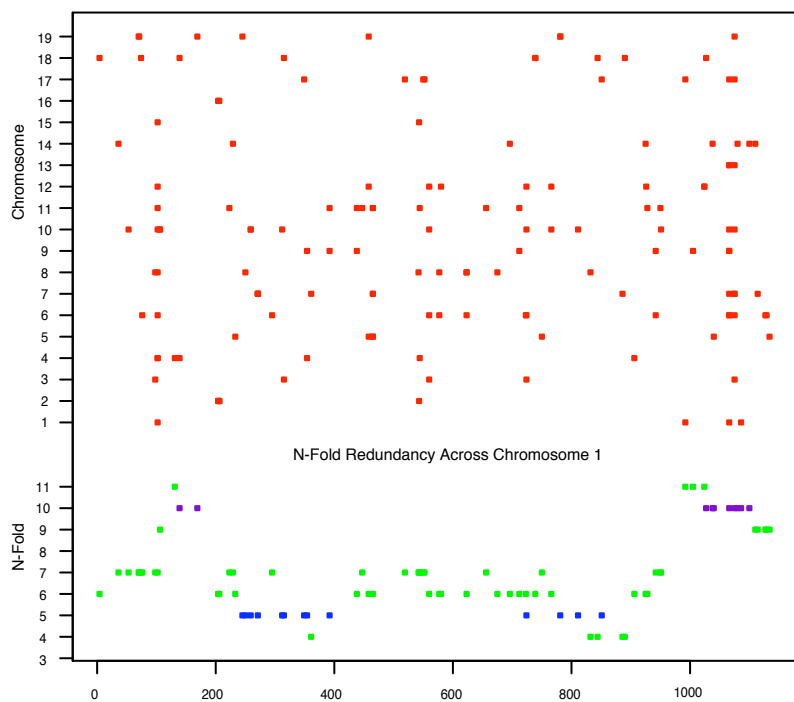
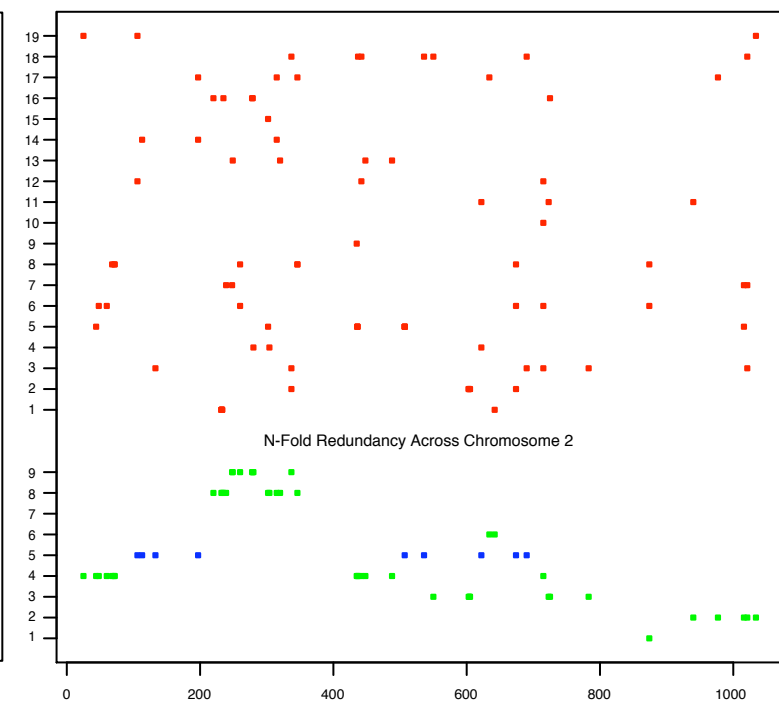


Additional file 4: Plot of the genomic positions of paralogous pairs of *Vitis vinifera* genes that arose from duplications prior to the divergence of monocots and eudicots. The x-axis represents each chromosome, with genes in linear order. The y-axis is each of the 19 *Vitis vinifera* chromosomes. A red solid square means the query gene on the x-axis had a paralogous gene in the phylogenetic analysis where the other paralogue was found on another chromosome, and the duplication event occurred before the monocot-eudicot split. The lower portion of each panel plots the n-fold redundancy along the query chromosome as defined by pairs of paralogs detected in a graph-based analysis (for every query gene, a sliding window of 100 genes to the left and 100 genes to the right, with a “hit” counted for the subject chromosome if it includes at least two ancient duplicated paralogs of genes in the sliding window; Dehal and Boore, PLoSBiology, 2005). The largest fraction of genes could detect another 4 paralogs in other regions of the genome (5-fold redundancy, including the query; highlighted in blue). This is likely to support two ancient WGDs plus a more recent γ event. If only one ancient WGD plus γ , the expected largest fraction of genes should detect another 1 to 3 paralogs in the other regions of the genome (2~4-fold). If two ancient WGDs followed by a more recent triplication event (γ), the expected largest fraction of genes should be in 5~10 fold category (10-fold is highlighted in purple).

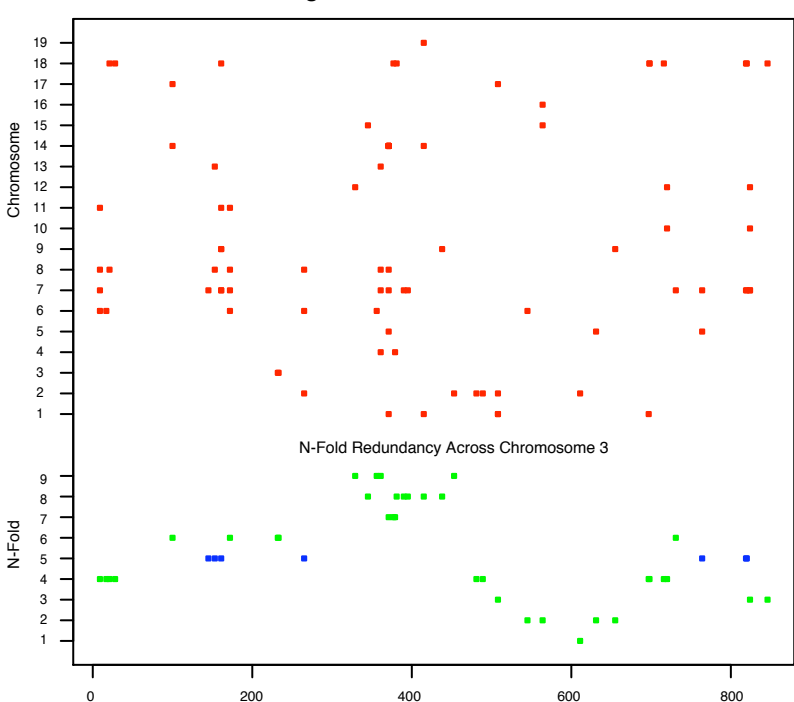
Paralogous Matches on Chromosome 1



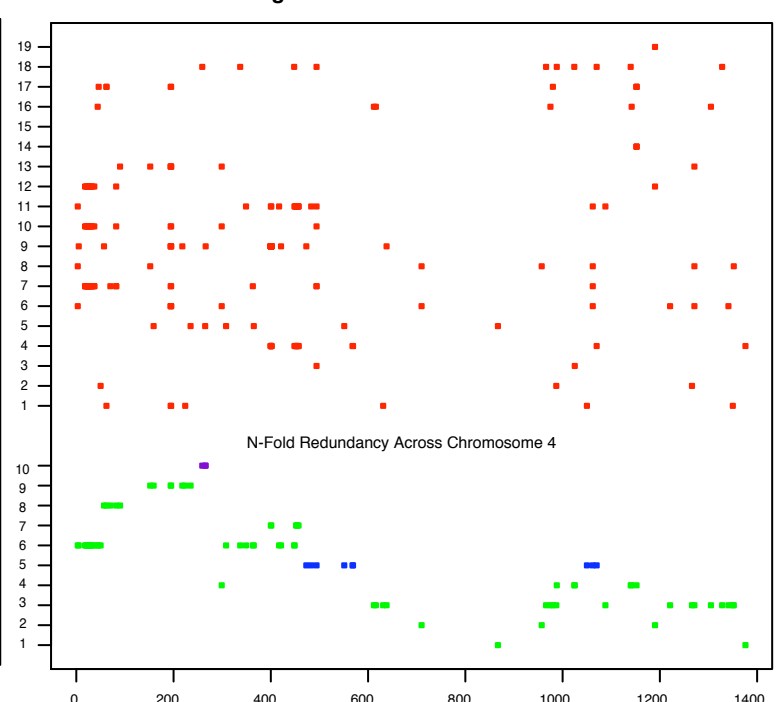
Paralogous Matches on Chromosome 2



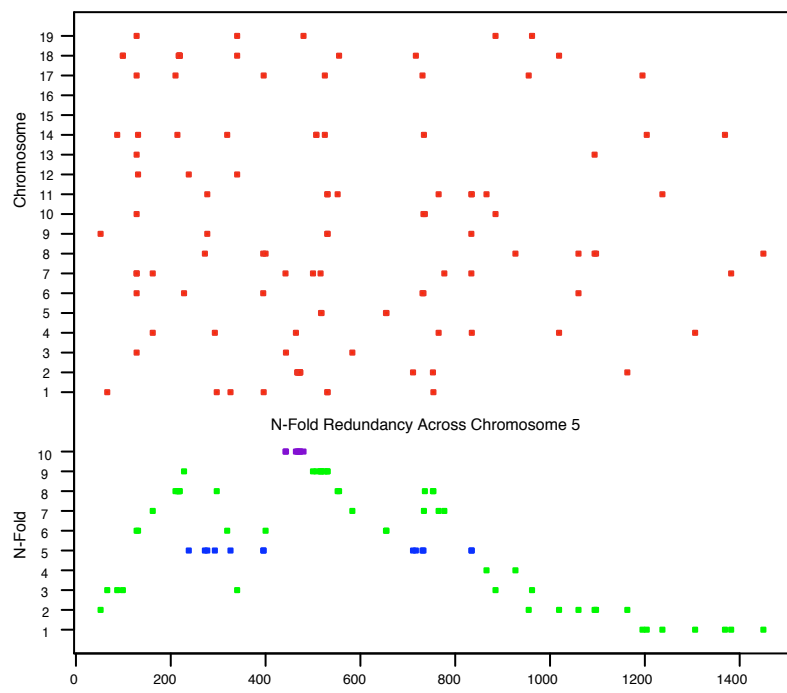
Paralogous Matches on Chromosome 3



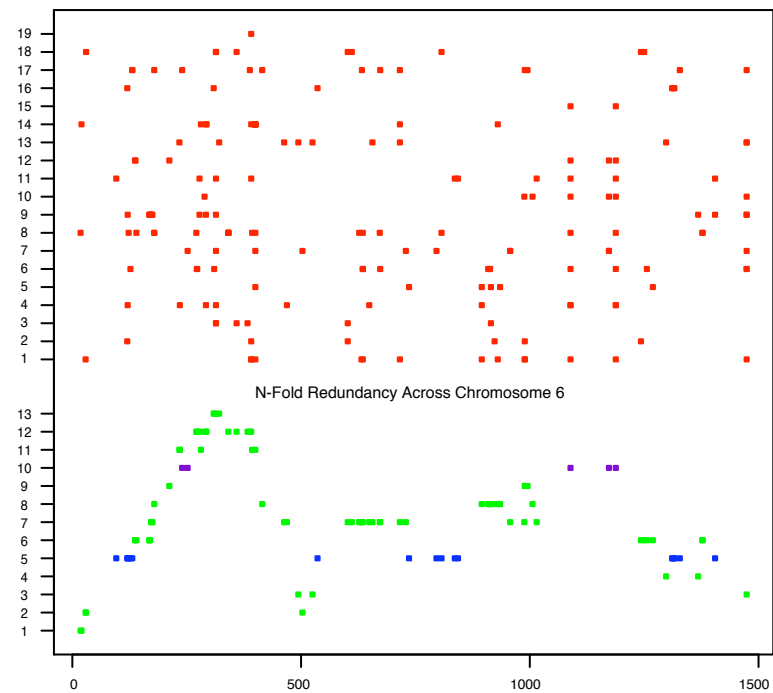
Paralogous Matches on Chromosome 4



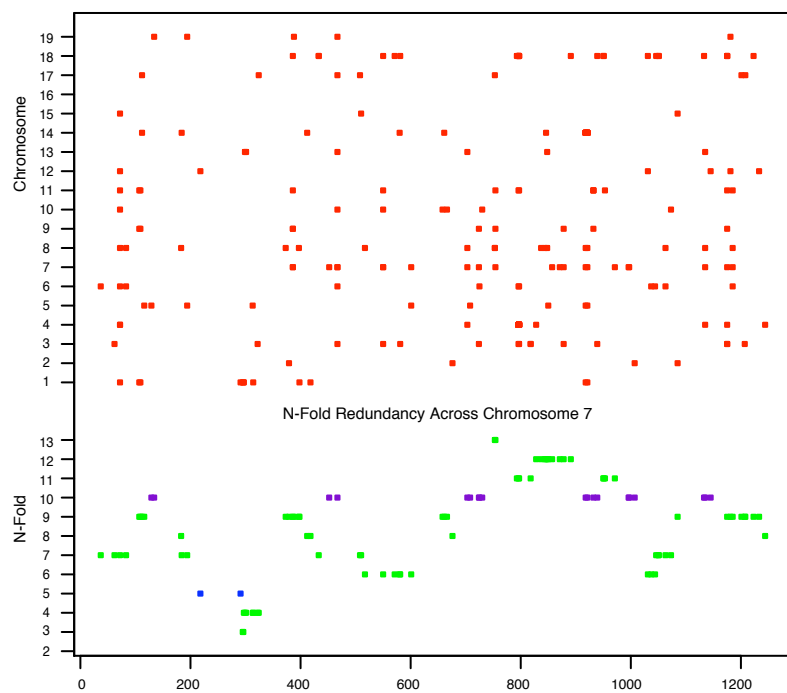
Paralogous Matches on Chromosome 5



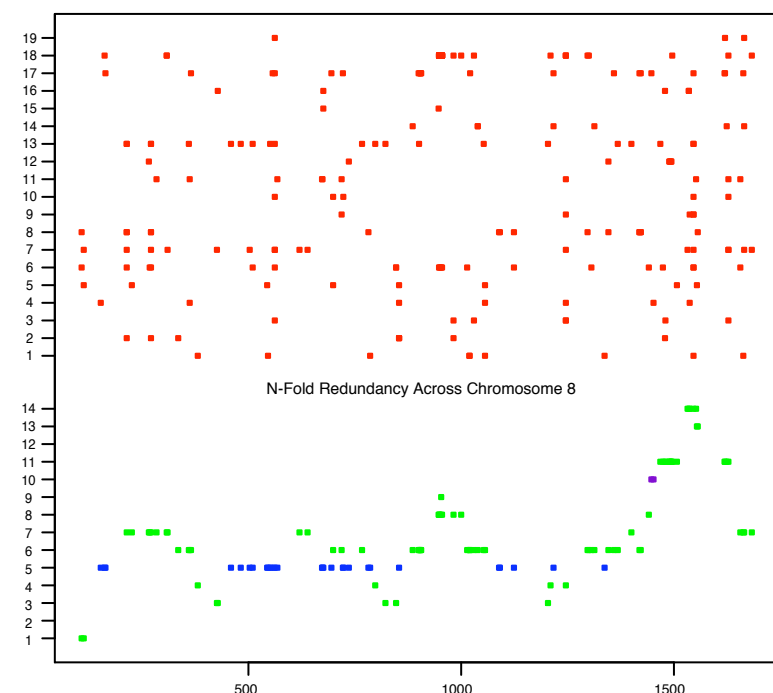
Paralogous Matches on Chromosome 6



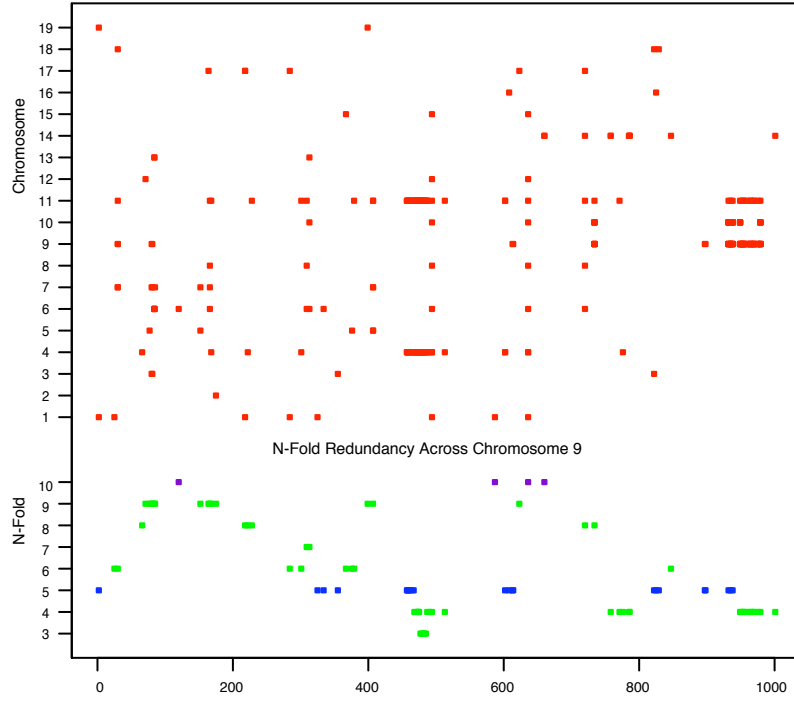
Paralogous Matches on Chromosome 7



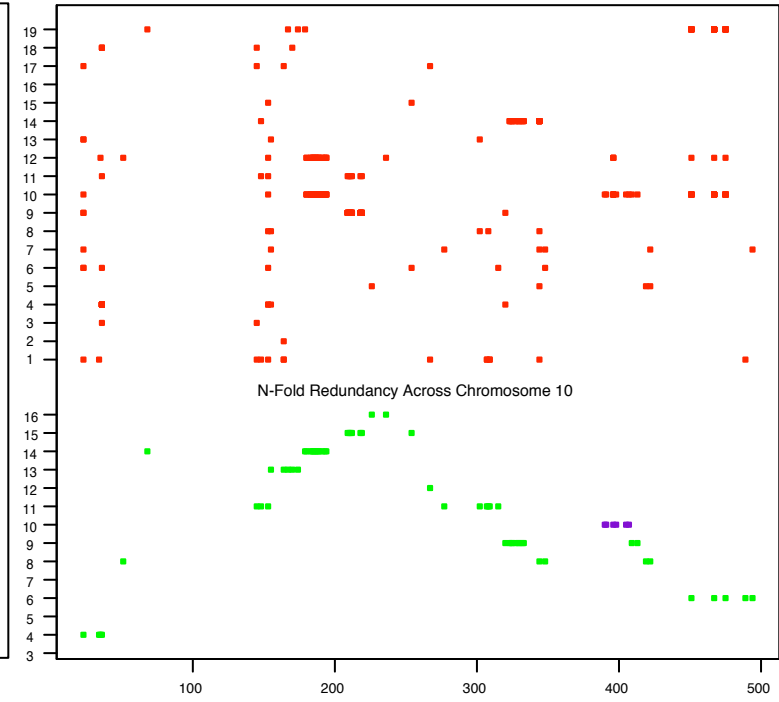
Paralogous Matches on Chromosome 8



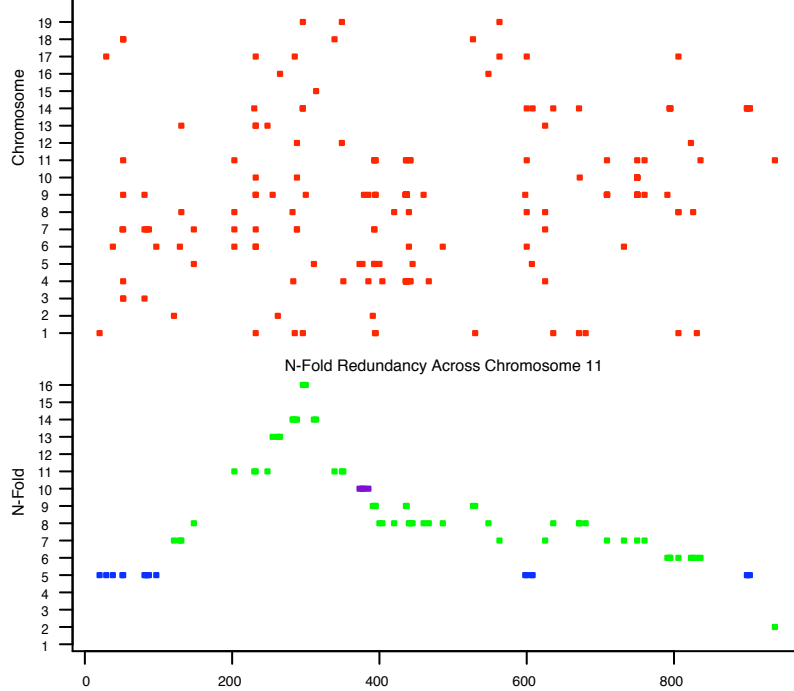
Paralogous Matches on Chromosome 9



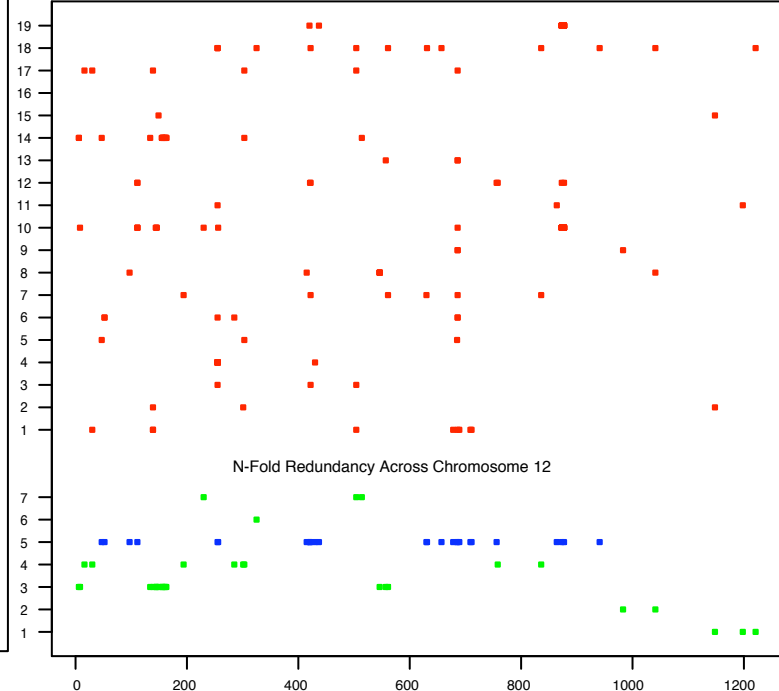
Paralogous Matches on Chromosome 10



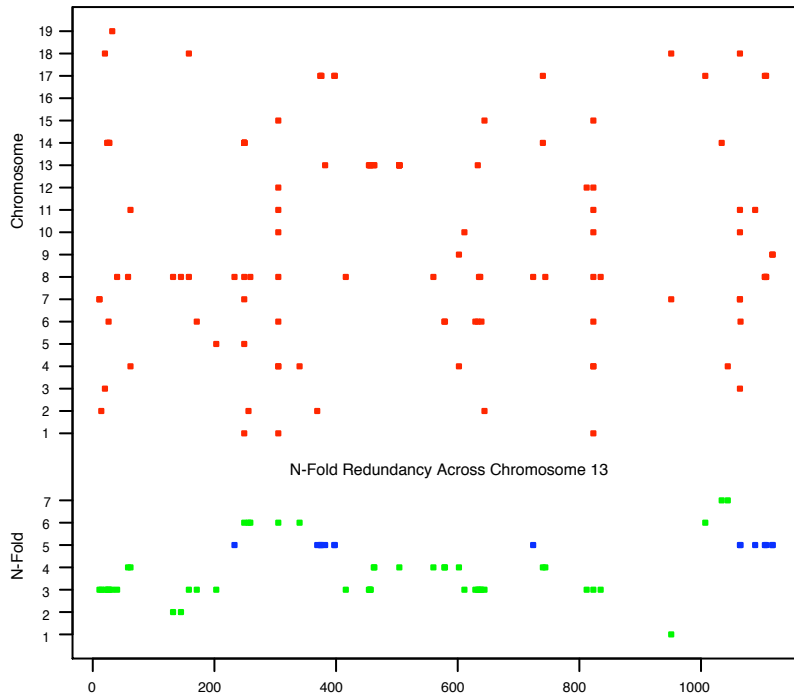
Paralogous Matches on Chromosome 11



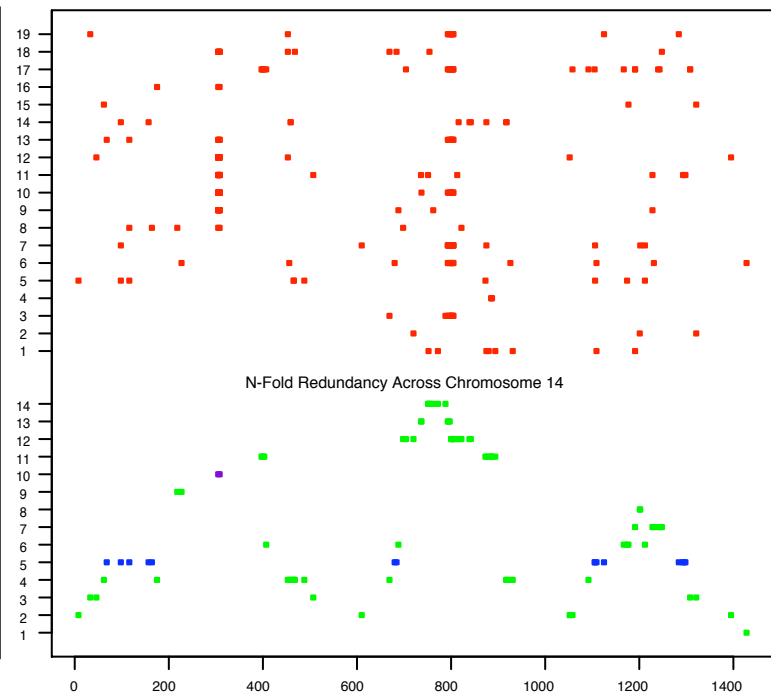
Paralogous Matches on Chromosome 12



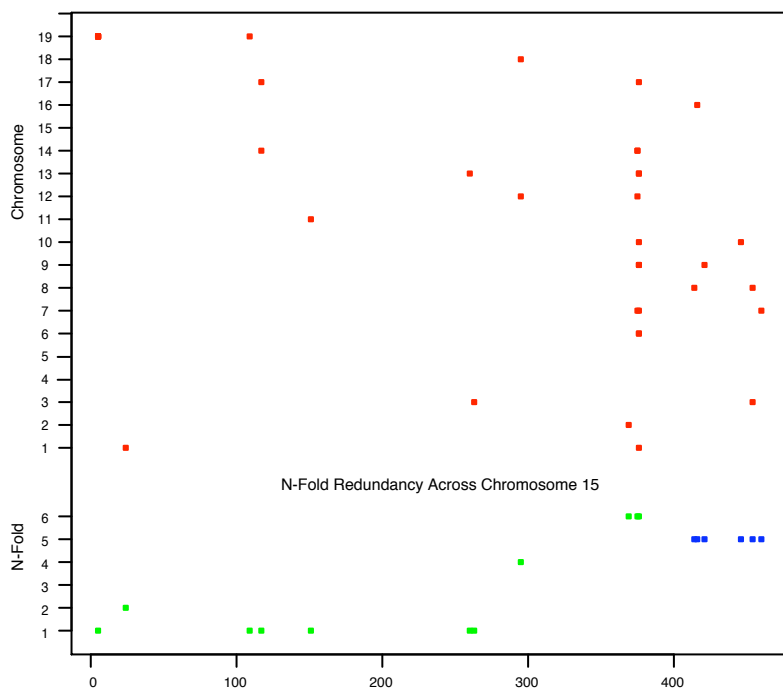
Paralogous Matches on Chromosome 13



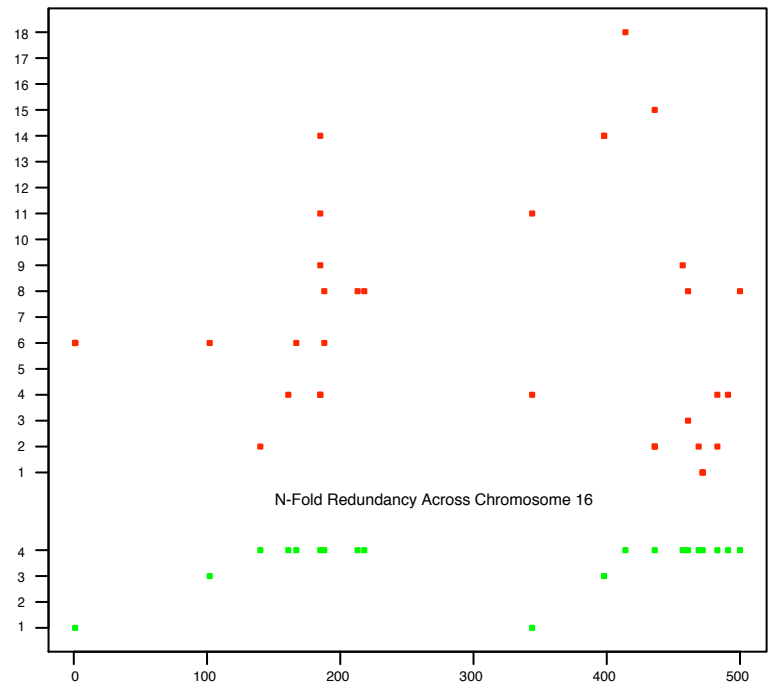
Paralogous Matches on Chromosome 14



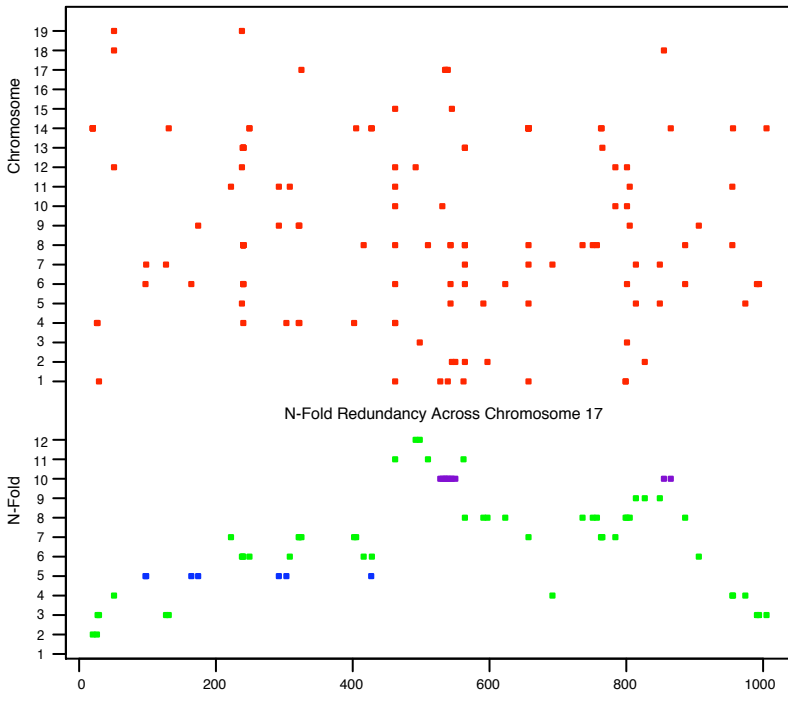
Paralogous Matches on Chromosome 15



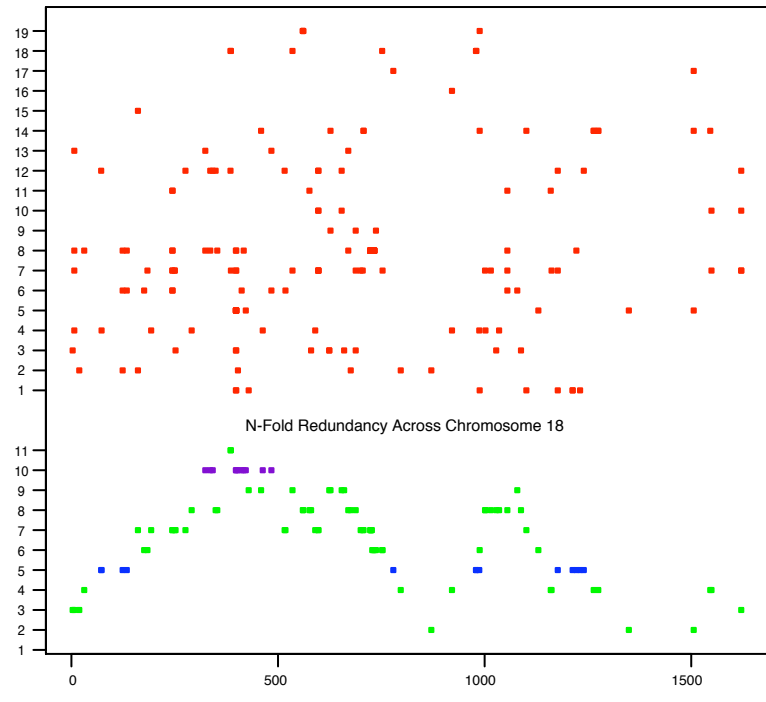
Paralogous Matches on Chromosome 16



Paralogous Matches on Chromosome 17



Paralogous Matches on Chromosome 18



Paralogous Matches on Chromosome 19

