



Figure S6 Correspondence analysis plots after nine iterations of removing outliers in the empirical mackerel data that satisfied the threshold $\sqrt{(PC1 + PC2)} > 2$ where $PC1$ and $PC2$ are the first and second principal components. Iterative steps are from top left to right moving down rows. The last plot 8 shows a cluster ball of genotypes after removing 116 genotypes from 5413 genotypes. One more iteration (not shown) removed 4 additional points.