



Figure S1: RMSD (left panel) and mean bias (right panel) for estimating  $F_{ST}$  under different sequencing coverage (2X, 6X and 20X). We compared the accuracy of the new method which does not rely on genotype calling ( $\hat{F}_{ST.Ev}$ ), while also using the true 2D-SFS as a prior, and a method based on allele frequencies after calling genotypes ( $\hat{F}_{ST.GC}$ ) (see Material and Methods). We simulated 20 individuals for each population and 10,000 sites for each scenario.