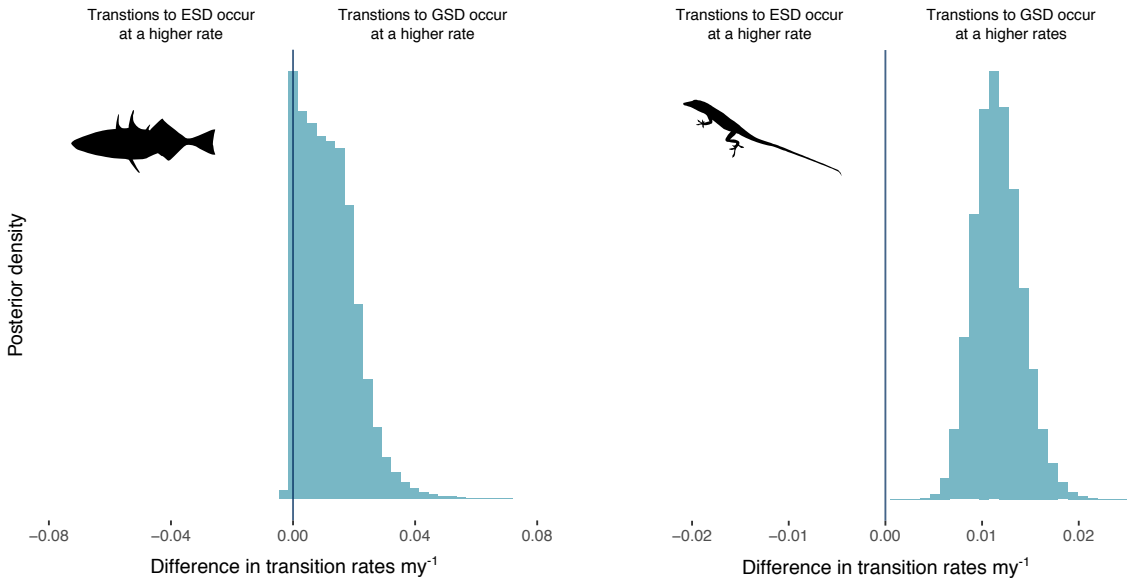
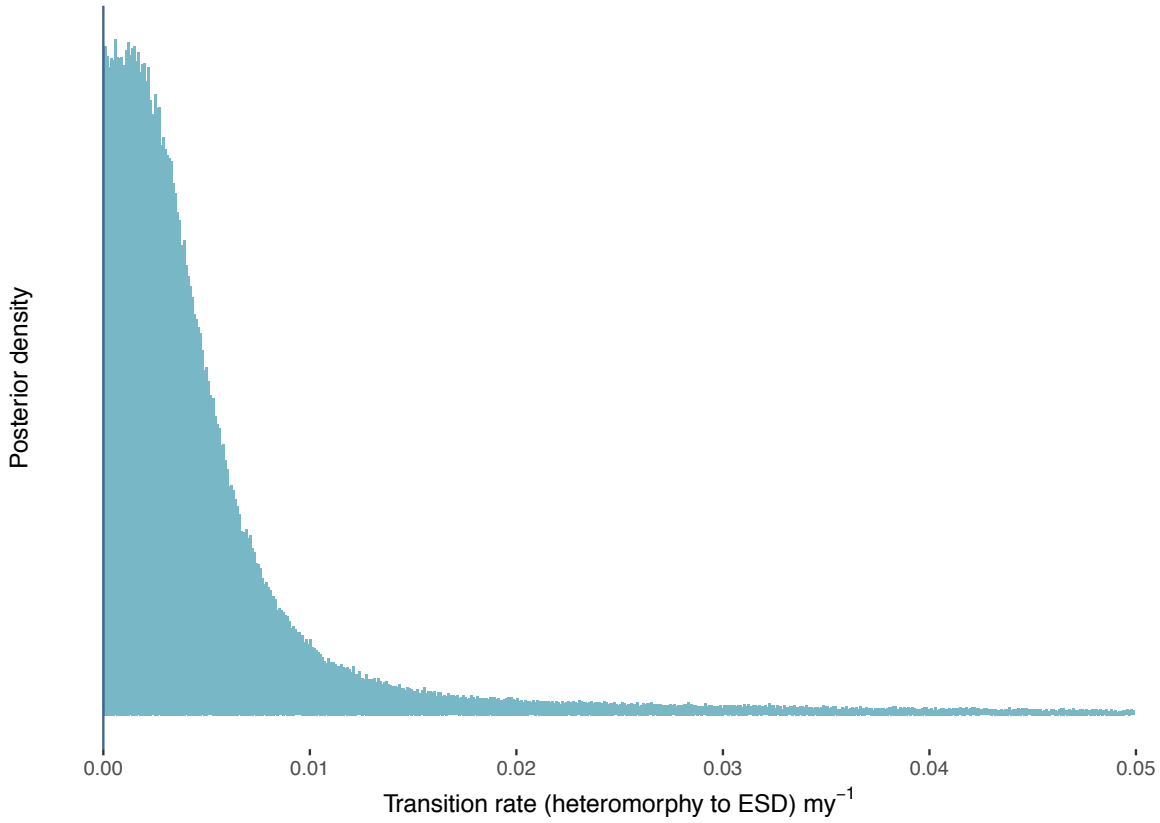
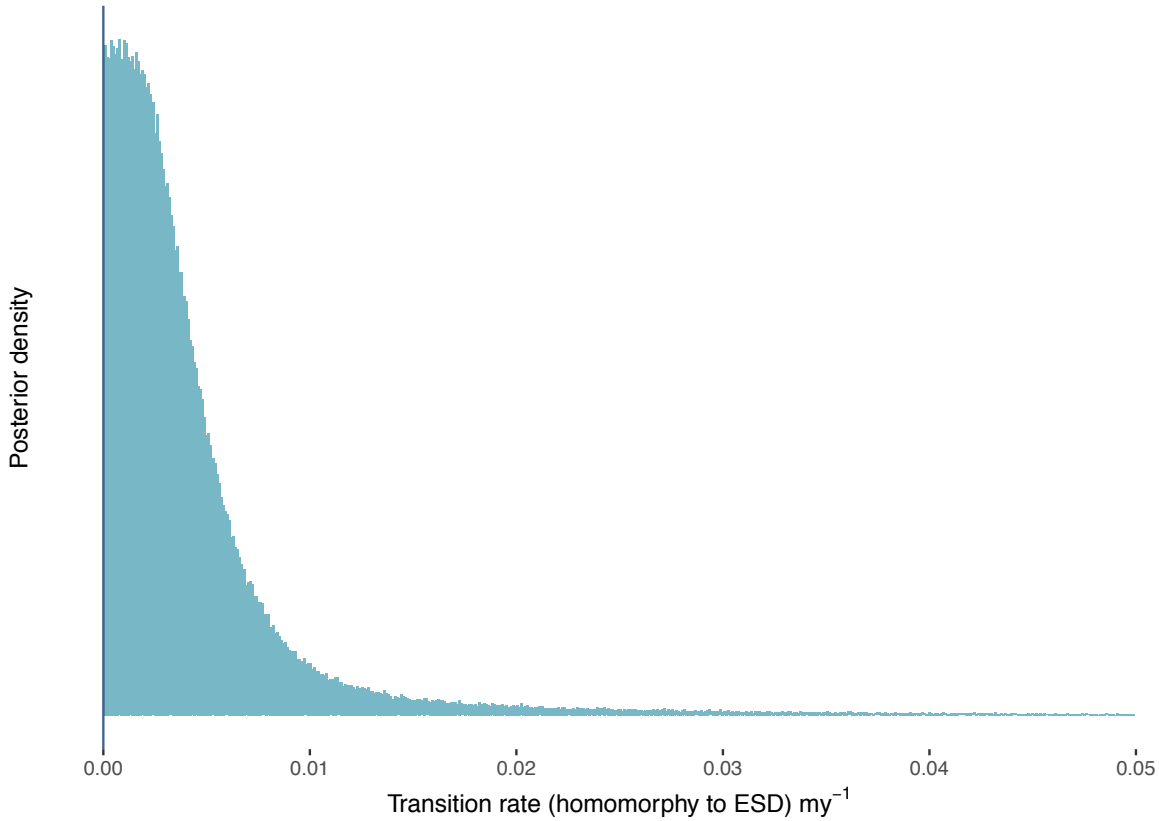


Supplemental Figure 1. Transitions from environmental sex determination to genetic sex determination occur at a higher rate than the reverse in fish and squamates. Posterior distribution of the difference in transition rates between genetic sex determination (GSD) and environmental sex determination (ESD) for fish (left panel) and squamates (right panel). This analysis removes the species coded as ESD in the main analyses (Figure 3), but for which there is evidence of both GSD and ESD. For this analysis, there were 310 records in the database that were coded as having GSD (158.1 matched to the tree on average) and 52 records of ESD (16.6 matched to the tree on average). For squamates, there were 389 records of GSD (280 matched to the tree on average) and 45 records of ESD (36 matched to the tree on average). Across the 10 datasets, 93.1% of the posterior distribution in fish and 100% of the posterior distribution in squamates supports the conclusion that transitions from ESD to GSD occur at a higher rate than the reverse.



Supplemental Figure 2. Posterior distribution of the transition rate from heteromorphic sex chromosomes to ESD in fish.



Supplemental Figure 3. Posterior distribution of the transition rate from homomorphic sex chromosomes to ESD in fish.