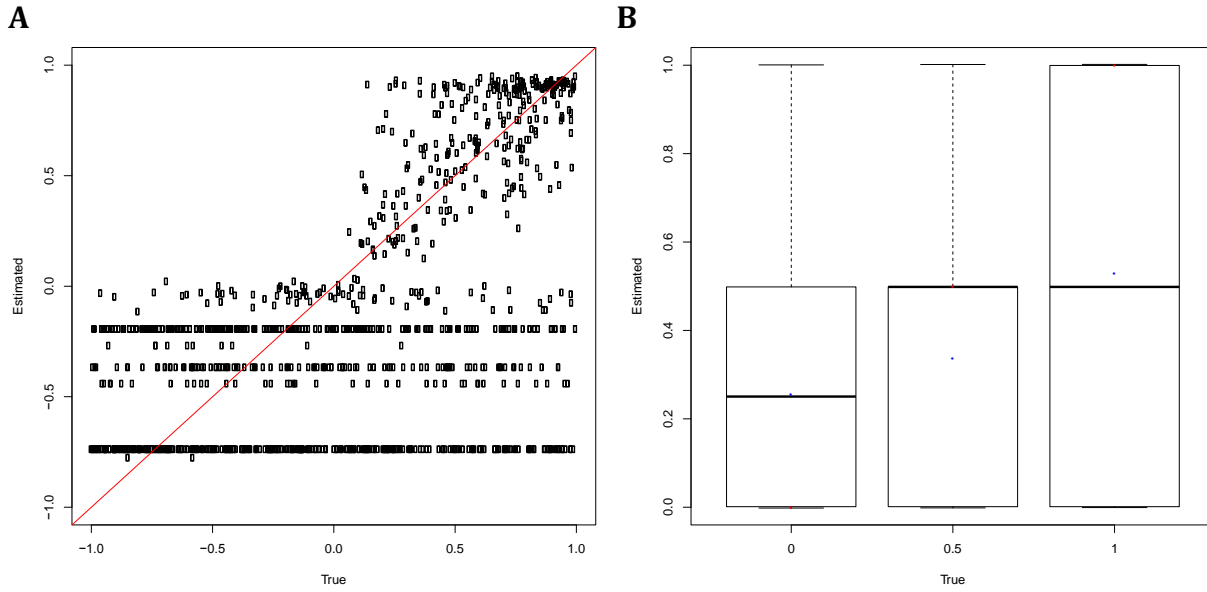


**Figure S6.** ABC model choice parameter estimations for 1000 pseudo-observables with a diploid population of  $N_e=50$ . Each circle is the mode of the posterior distribution from the 0.1% best simulations.

Case 1: Pseudo-observables with constant selection (A)  $M_0$  estimates of  $s$  (B)  $M_0$  estimates of  $h$



Case 2: Pseudo-observables with changing selection (C)  $M_1$  estimates of  $s1$  (D)  $M_1$  estimates of  $s2$  (E)  $M_1$  estimates of  $CP$  (F)  $M_1$  estimates of  $h$

