



**Figure S7** Asymptotic stability of the marginal one-locus migration–selection equilibrium  $\tilde{E}_B$  in continuous time I. Light blue areas indicate where  $\tilde{E}_B$  is asymptotically stable and  $A_1$  cannot invade ( $\tilde{\nu} < 0$ ;  $\tilde{\nu}$  as in Eq. 91, File S1). Orange areas indicate where  $\tilde{E}_B$  is unstable and  $A_1$  may potentially invade ( $\tilde{\nu} > 0$ ). The black curve represents the critical recombination rate  $\tilde{r}_B$  given in Eq. (93), as a function of the migration rate. The selection coefficient  $a$  in favour of  $A_1$  is 0.02 throughout, the selection coefficient  $b$  in favour of  $B_1$  is 0.03 in the first row (A–C) and 0.1 in the second (D–F). In each row, the continental frequency of  $B_1$  increases from left to right, taking values of  $q_c = 0.01$  in (A) and (D),  $q_c = 0.2$  in (B) and (E), and  $q_c = 0.8$  in (C) and (F).