Figure S20  Effect on neutral coalescence of linkage to two sites at migration–selection balance. The rate of coalescence $G$ (orange, see Eq. 25) and the coalescent effective size of the island population, $c_1 \bar{N}/G$, are given as a function of the position (in map units) of the neutral locus $C$. Solid and thick dashed curves are for values computed using the exact and approximate (Eq. 23) effective migration rate, respectively (they overlap almost completely). One map unit (centimorgan) corresponds to a recombination rate of $r = 0.01$ and the position of the sites under selection is indicated by vertical dashed lines. The total population size is $\bar{N} = 10^8$, the fraction of the island is $N_1/\bar{N} = c_1 = 0.01$ and the selection coefficient at locus $B$ (position 60) is $b = 0.4$. (A) and (B) The migration rate to the island is of the same order of magnitude as selection at locus $A$: $a = 0.02$, $m_1 = 0.024$. (C) and (D) Immigration is weak compared to selection at locus $A$: $a = 0.2$, $m_1 = 0.024$. Throughout, $m_1/m_2 = c_2/c_1 = (1 - c_1)/c_1$, so actual migration is conservative (Wakeley 2009, p. 194). The horizontal black line gives the baseline-effective population size at the neutral locus in the absence of linked selection. For alternative parameter combinations, see File S9.