



**Figure S7.** Two possible phylogenetic configurations in a transmission chain of length 3. (A) Lineages  $g_2$  and  $g_3$  coalesce within host 2. (B) Lineages  $g_2$  and  $g_3$  coalesce within host 1, prior to the coalescence of  $g_1$  and  $g_2$ . This configuration is possible only with a bottleneck of size  $> 1$ .