

**Table S3 Comparison between computer simulations and diffusion approximations (E[] in bold face) for different allelic diversity variables.**

<b><math>u = 0.00001</math></b>									
$Nm$	$g$	$A_S$	<b>E[<math>A_S</math>]</b>	$D_A$	<b>E[<math>D_A</math>]</b>	$A_{ST}$	<b>E[<math>A_{ST}</math>]</b>	$K_T$	<b>E[<math>K_T</math>]</b>
0	100	0.188	<b>0.207</b>	1.052	<b>1.072</b>	0.848	<b>0.838</b>	11.250	<b>44.151</b>
	50	0.182	<b>0.170</b>	1.047	<b>1.041</b>	0.852	<b>0.860</b>	11.224	<b>37.873</b>
	20	0.144	<b>0.129</b>	1.012	<b>1.007</b>	0.876	<b>0.887</b>	10.838	<b>29.597</b>
	10	0.119	<b>0.103</b>	0.990	<b>0.986</b>	0.893	<b>0.906</b>	10.596	<b>23.505</b>
1	100	1.293	<b>1.290</b>	0.368	<b>0.337</b>	0.221	<b>0.207</b>	3.950	<b>4.282</b>
	50	1.192	<b>1.168</b>	0.367	<b>0.345</b>	0.236	<b>0.228</b>	3.806	<b>4.012</b>
	20	0.980	<b>0.982</b>	0.350	<b>0.346</b>	0.264	<b>0.260</b>	3.460	<b>3.568</b>
	10	0.792	<b>0.806</b>	0.339	<b>0.347</b>	0.301	<b>0.301</b>	3.196	<b>3.231</b>
1000	100	1.968	<b>1.839</b>	0.250	<b>0.277</b>	0.113	<b>0.131</b>	3.870	<b>3.751</b>
	50	1.565	<b>1.569</b>	0.248	<b>0.277</b>	0.137	<b>0.150</b>	3.474	<b>3.487</b>
	20	1.189	<b>1.202</b>	0.249	<b>0.277</b>	0.173	<b>0.187</b>	3.084	<b>3.124</b>
	10	0.898	<b>0.923</b>	0.248	<b>0.278</b>	0.217	<b>0.231</b>	2.818	<b>2.848</b>
<b><math>u = 0.0002</math></b>									
0	100	3.439	<b>3.274</b>	3.995	<b>3.431</b>	0.537	<b>0.512</b>	44.390	<b>69.487</b>
	50	2.900	<b>2.738</b>	3.510	<b>3.060</b>	0.548	<b>0.528</b>	39.004	<b>58.257</b>
	20	2.174	<b>2.085</b>	2.857	<b>2.609</b>	0.568	<b>0.556</b>	31.742	<b>43.646</b>
	10	1.629	<b>1.639</b>	2.366	<b>2.295</b>	0.592	<b>0.583</b>	26.290	<b>33.168</b>
1	100	9.441	<b>9.106</b>	5.608	<b>4.803</b>	0.373	<b>0.345</b>	41.140	<b>44.052</b>
	50	7.877	<b>7.366</b>	4.894	<b>4.392</b>	0.383	<b>0.374</b>	35.330	<b>38.171</b>
	20	5.580	<b>5.392</b>	3.955	<b>3.818</b>	0.415	<b>0.415</b>	28.250	<b>29.810</b>
	10	3.865	<b>3.786</b>	3.173	<b>3.180</b>	0.451	<b>0.457</b>	22.940	<b>23.658</b>
1000	100	20.181	<b>20.206</b>	4.847	<b>5.236</b>	0.194	<b>0.206</b>	39.390	<b>28.938</b>
	50	15.401	<b>15.320</b>	4.529	<b>5.044</b>	0.227	<b>0.248</b>	33.694	<b>33.583</b>
	20	9.451	<b>9.350</b>	3.957	<b>4.358</b>	0.295	<b>0.318</b>	26.608	<b>26.507</b>
	10	5.802	<b>5.758</b>	3.283	<b>3.600</b>	0.361	<b>0.385</b>	21.428	<b>21.271</b>

The scenario considered refers to a subdivided population with  $n = 10$  subpopulations, each of size  $N = 1000$  individuals, mutation rate  $u$ , variable migration rate ( $m$ ), and  $g$  sampled genes per subpopulation. See main text for definitions.