Table S1. Fixed and variable parameters for the simulation model.

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed</td>
<td>Nspecies.pool</td>
<td>Number of species in the species pool</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Carrying capacity (in number of individuals) of the simulated communities</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>NBd</td>
<td>Species' niche breadth</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Timesteps</td>
<td>Number of full cycle of C random substitution of individuals</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>n.communities</td>
<td>Number of communities per species pool</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ei</td>
<td>Environmental position of the community i on the gradient</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>B_abun</td>
<td>Importance of the recruitment filter</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>n.rep.null.model</td>
<td>Number of permutations used for each null distributions</td>
<td>1000</td>
</tr>
<tr>
<td>Variable</td>
<td>B_env</td>
<td>Importance of the abiotic filter</td>
<td>0; 0.1; 0.5; 1; 2</td>
</tr>
<tr>
<td></td>
<td>B_comp</td>
<td>Importance of the biotic filter</td>
<td>0; 1; 5; 10</td>
</tr>
<tr>
<td></td>
<td>δ</td>
<td>Rate of trait evolution</td>
<td>0.1; 0.5; 1; 5; 10</td>
</tr>
</tbody>
</table>