

Supplementary material

Appendix 1

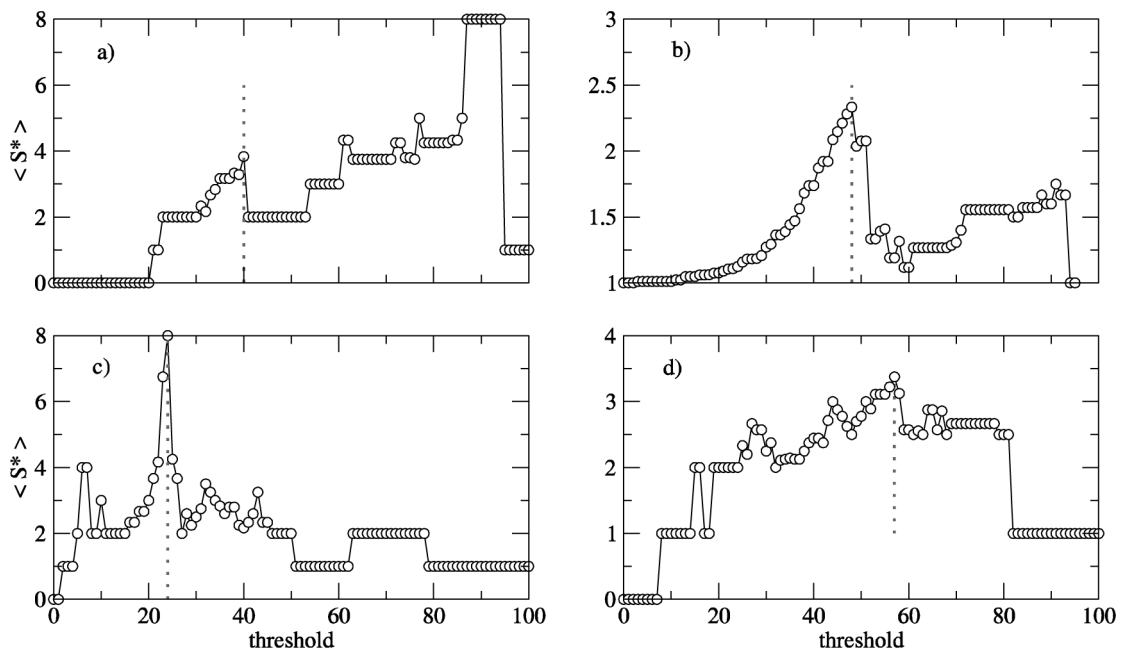


Figure A1. Average cluster size ($\langle S^* \rangle$) of networks as a function of the network thresholds between European species. The percolation threshold for a) amphibians is $D_p = 40$, for b) reptiles is $D_p = 48$, for c) birds is $D_p = 24$, and for d) mammals is $D_p = 57$. D stand for Bray–Curtis distances.

Table A1. Stepwise approach for building networks of interactions using large scale species distributions. A discussion of the major assumptions and caveats with each step in the framework is provided.

Step	Approach	Assumptions	Caveats
1	Build pair wise geographical dissimilarity matrix	The degree of spatial overlap in species distributions indicates degree to which species can potentially interact.	Species may overlap but do not interact either directly or indirectly.
2	Construct unweighted or weighted network of interactions in geographical space	If assumption 1 is correct, then distances can be converted in network interactions.	The same as in 1.
3	Remove interactions that are not more likely than expected by chance	Pairwise interactions not greater than expected by chance are not ecologically meaningful.	Interactions may be no greater than expected by chance and still be meaningful.
4	Prune network of interactions by identifying the percolation point	At large geographical scales all species interact directly or indirectly with one another, thus forming a connected network.	Procedure with untested properties in ecological systems. Needs empirical validation.