

**Appendix S1** Number, cumulated variation (%) and order of significant MEMs (distance-based Moran's eigenvector maps) for Staphylinidae and Silphidae beetle communities, which were analyzed on abundance and presence-absence matrices.

Plot	Parameter	Abundance		Presence-absence	
		Staphylinidae	Silphidae	Staphylinidae	Silphidae
LS	Number	1	6	1	7
	Cumulated variation (%)	1.4	12.65	1.33	11.86
	Order	97	2, 10, 34, 47, 71, 72	97	2, 10, 27, 34, 47, 71, 72
FL	Number	5	6	6	8
	Cumulated variation (%)	8.39	12.87	8.3	14.24
	Order	12, 21, 59, 70, 75	8, 13, 15, 33, 54, 69	3, 12, 21, 55, 59, 70	8, 13, 15, 33, 35, 54, 59, 69

LS means plot in the Liangshui Natural Reserve. FL means plot in the Fenglin Natural Reserve.