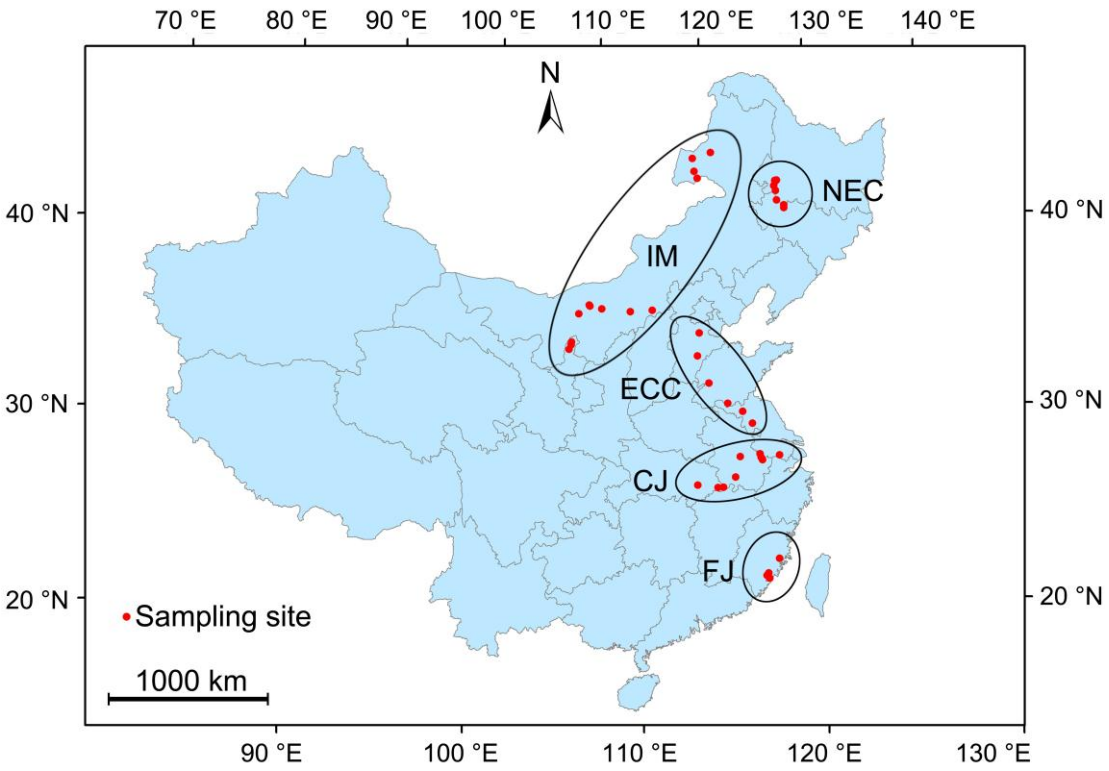

Figure 1 Location of the 42 sampling sites in China. FJ (included 5 reservoirs) – Fujian Province, southeast China; CJ (9 lakes) – the lower and middle reaches of Changjiang River, China; ECC (6 lakes) – east central China, IM (13 lakes) – Inner Mongolia, north China; NEC (9 lakes) – northeast China.

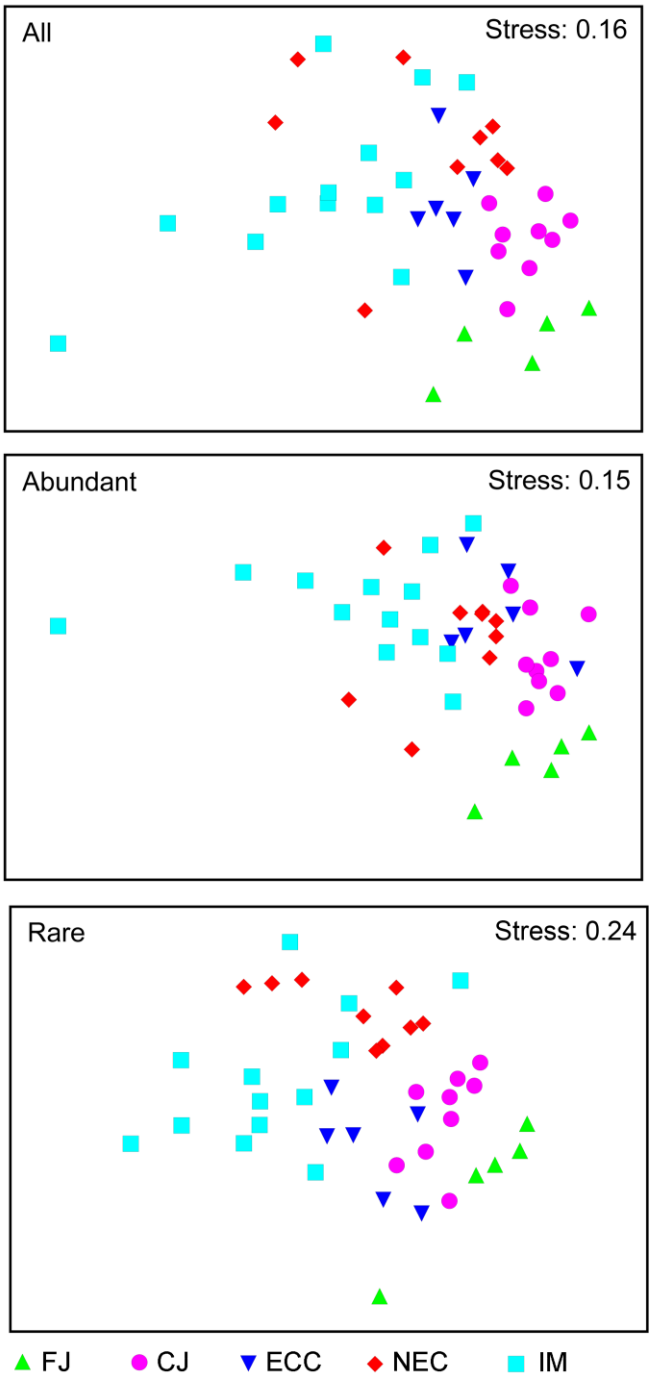

Figure 2 MDS ordination for bacterioplankton communities from 42 lakes and reservoirs of China. All – all bacterial taxa, abundant – abundant taxa, rare – rare taxa. For region abbreviations see Figure 1.

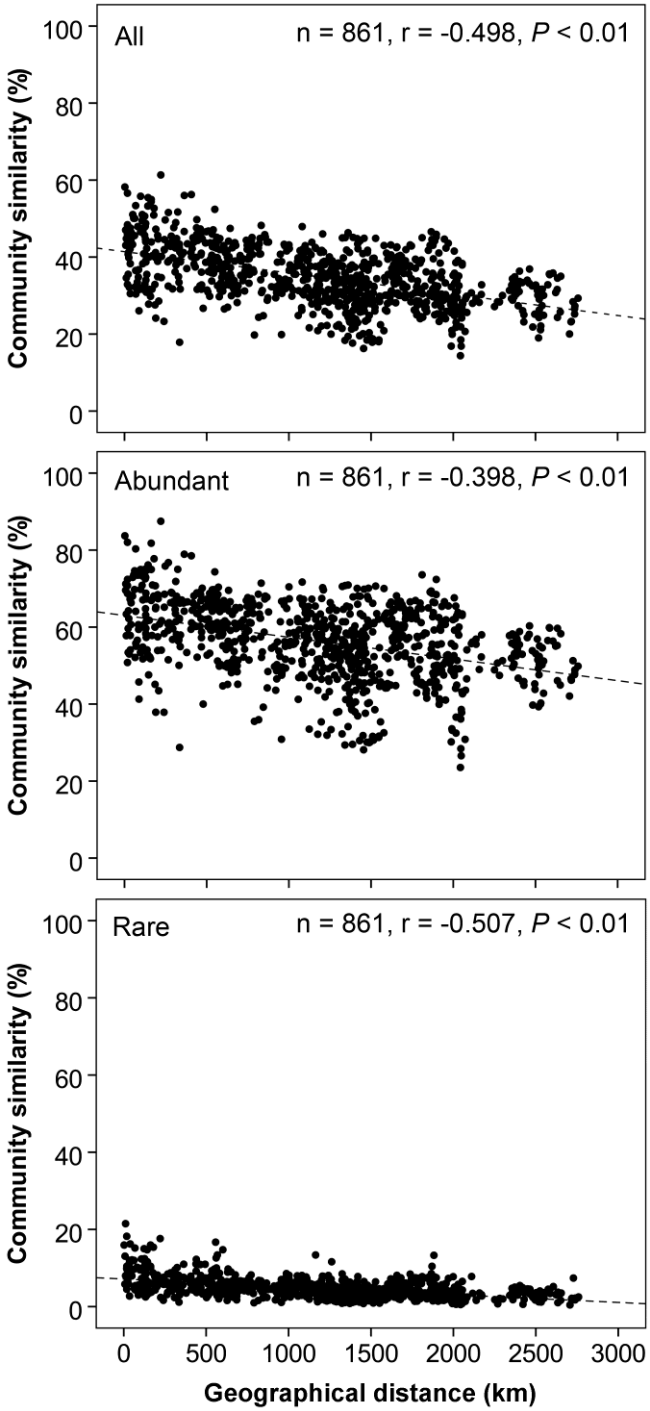

Figure 3 Spearman's rank correlations between the Bray-Curtis similarity of bacterioplankton community and geographical distance (n is the number of comparison).

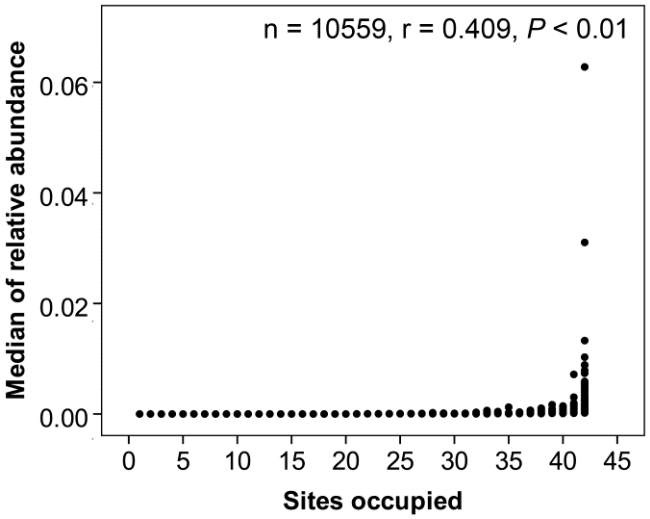

Figure 4 Spearman's rank correlation between median of bacterial OTU relative abundance and number of sites occupied (n is the number of OTUs).

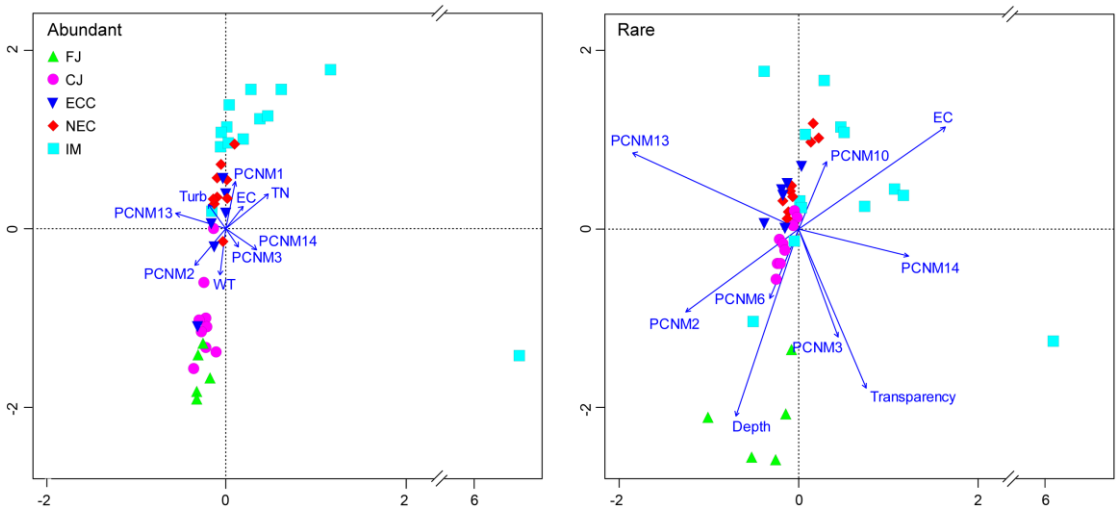

Figure 5 CCA ordination showing the bacterial community composition in relation to significant local environmental variables and regional geographical factors ($P < 0.05$). WT – water temperature, EC – electrical conductivity, Turb – turbidity, TN – total nitrogen.

Table 1 Mantel and partial Mantel tests for the correlation between community similarity and local environmental and regional factors using Spearman's coefficient

Effects of	Controlling for	Abundant bacteria	Rare bacteria
Local		0.383**	0.470**
Regional		0.402**	0.325**
Local	Regional	0.331**	0.401**
Regional	Local	0.353**	0.190*

The significances are tested based on 999 permutations. ** $P < 0.01$, * $P < 0.05$.