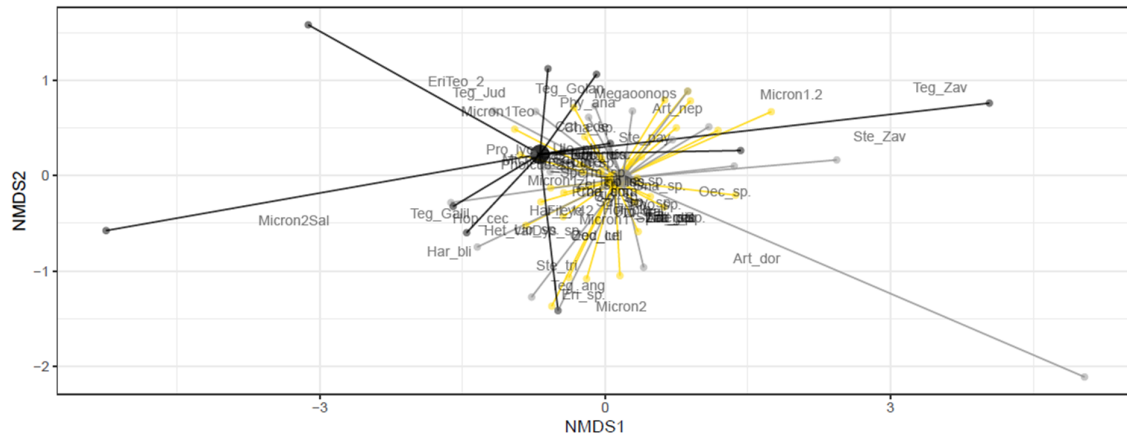
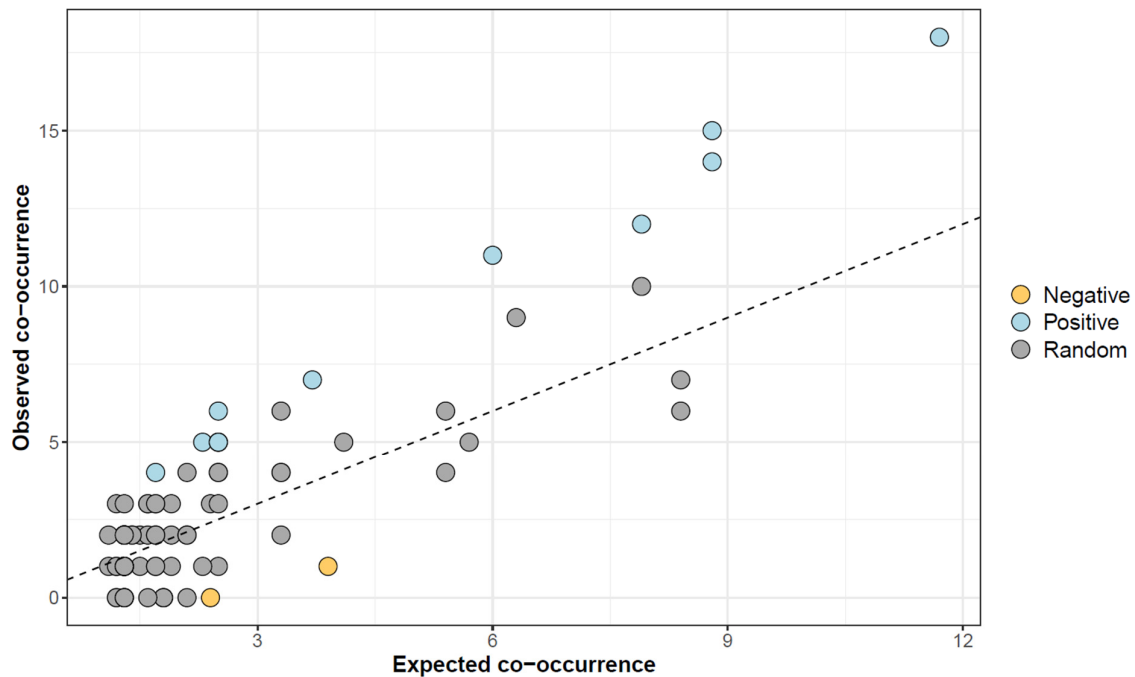


## Supplementary Materials



**Figure S1.** Spider plot of communities by cave zone, derived from non-metric multidimensional scaling. Colours denote cave zones (black, grey, and yellow denoting dark, twilight, and entrance zones, respectively). Axes represent a two-dimensional variation in spider communities. Each smaller point represents a single community present in a distinct cave zone, joined by the centroids of communities in each group (larger nodes = mean coordinates in that group), with the distance between them indicating their dissimilarity (i.e., proximate points are similar, distant points are dissimilar). A high degree of overlap is observable, particularly between twilight and entrance communities, but dark communities are more distinct and highly variable. Stress = 0.1002019.



**Figure S2.** Spider species co-occurrence across cave zones. Yellow, grey, and blue points denote significantly negative, random, and significantly positive co-occurrences, respectively.

**Table S1.** Significant univariate MGLM results for species with significant associations with model independent variables not including cave zone or interactions between cave zone and other variables; deviance and probability are given for each. The nature of the association with temperature or elevation is given as “+” or “-” for positive or negative associations, respectively, and “N”, “C”, and “S” are given for prevalence in north, central, or southern geographical regions, respectively. The “category” column denotes whether a species is troglobite, troglophile, or accidental (see Gavish-Regev et al., 2021 for the assignment of species to categories).

Species	Category	Associations
<i>Artema doriae</i>	Troglophile	+ Temperature (Dev = 10.252, $p = 0.037$ )
Erigoninae sp.	Accidental	+ Elevation (Dev = 13.577, $p = 0.016$ )
Gnaphosidae sp.	Accidental	- Temperature (Dev = 15.834, $p = 0.002$ )
Micronetinae sp. (1.1/2)	Troglophile	C Region (Dev = 14.803, $p = 0.017$ )
Steatoda sp. Zavoia	Troglophile	+ Temperature (Dev = 14.385, $p = 0.005$ )