

Supplementary material

Fig. A2. Histogram of the standardized effect size of the Z-MNTD phylogenetic diversity of the pond community for different ponds and months in relation to water level. a) Results for the pond communities in all the ponds, b) results for pond communities in the ponds with medium or high water level. Water level as follows: 0 totally dry, 1 almost dry, 2 low level, 3 medium level, 4 high level. Numbers represent the number of pond counts included in each water level. There were no significant differences between water level categories.

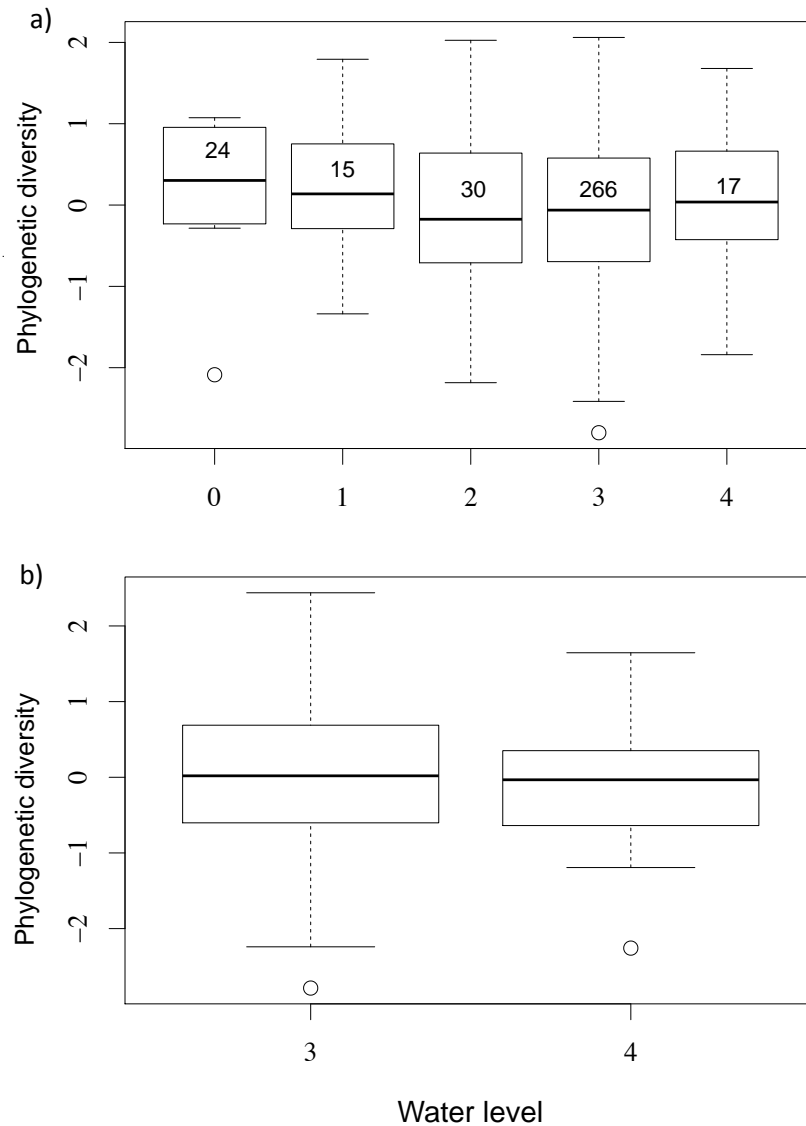


Fig. A3. Pie chart representing the proportion of pond communities during the 11 monthly surveys that have a phylogenetically clustered (i.e. phylogenetically related species recorded together in the same ponds), random (i.e. species occurring randomly across ponds and months) or phylogenetically overdispersed (i.e. phylogenetically unrelated species recorded together) pond community based on the Z-MNTD metric. Each pond is included 11 times (one per month) in the plot. Both significant ($p < 0.05$) and marginally significant ($P < 0.1$) pond communities are shown. Results for two null models are shown: Independent swap (i.e. maintains species frequency, so it is an abundance weighted measure) and sample pool (selects one species randomly from the total pool). Results are for both a) all the ponds ($N = 352$ pond communities) and b) ponds with medium or high water level ($N = 283$ pond communities). After correction for multiple testing ($p < 0.001$) all pond communities were random.

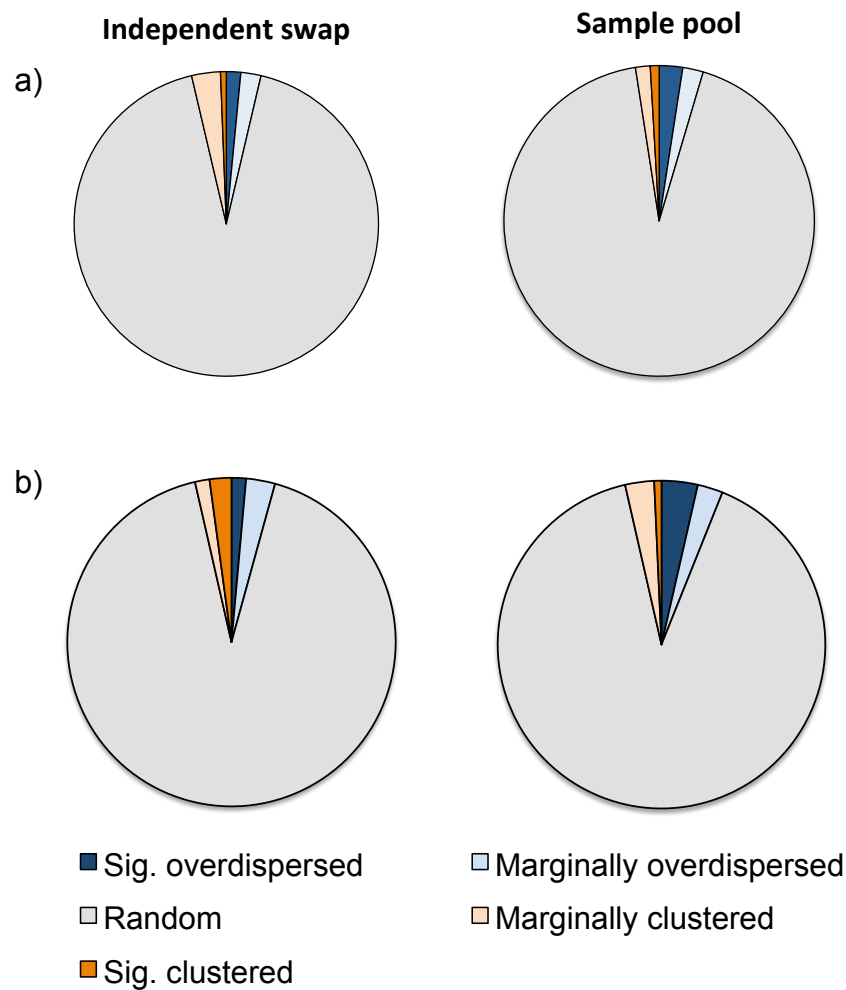
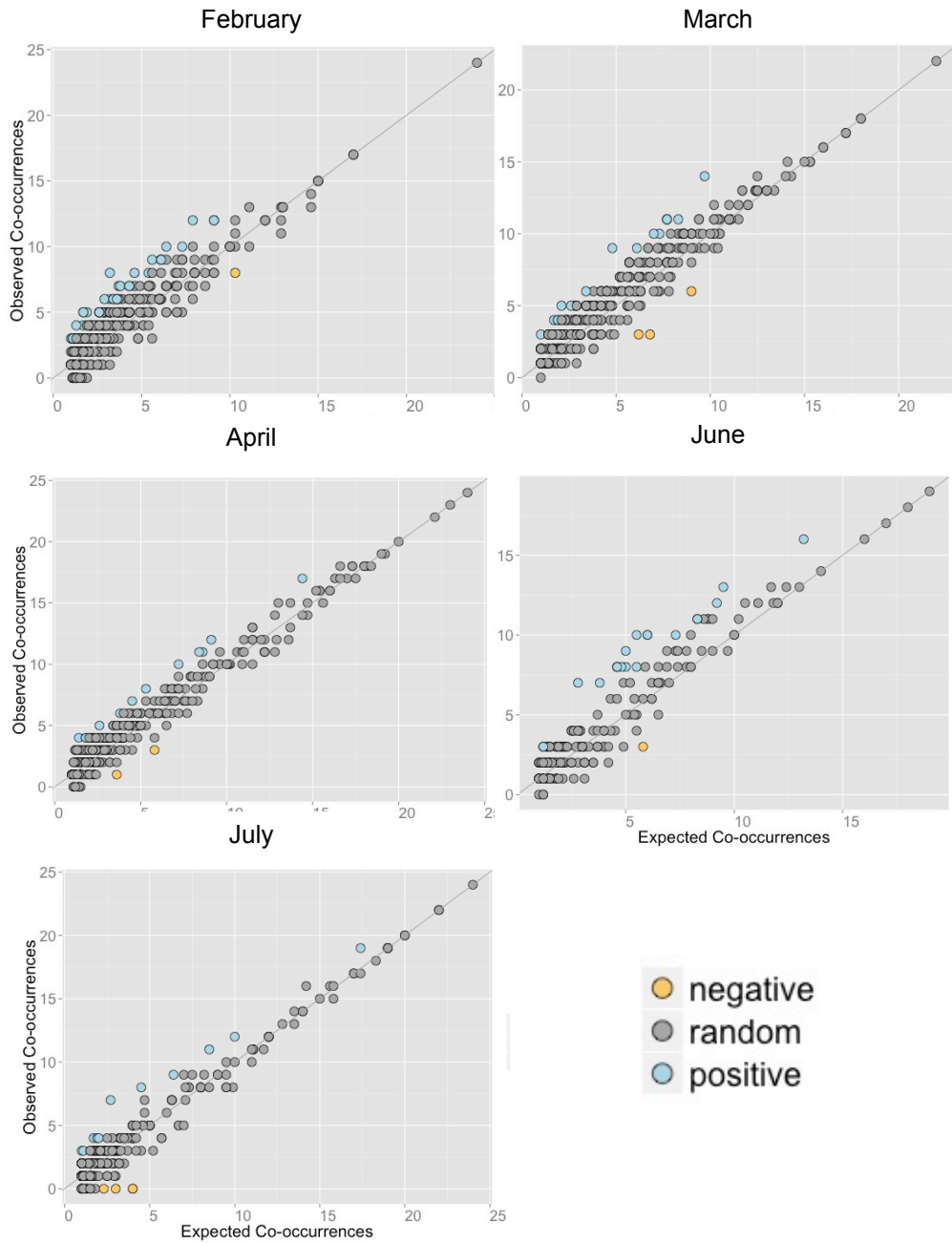
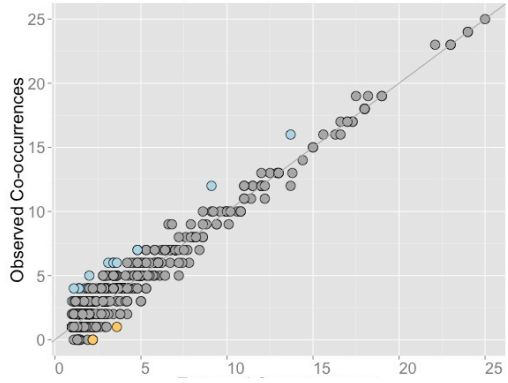


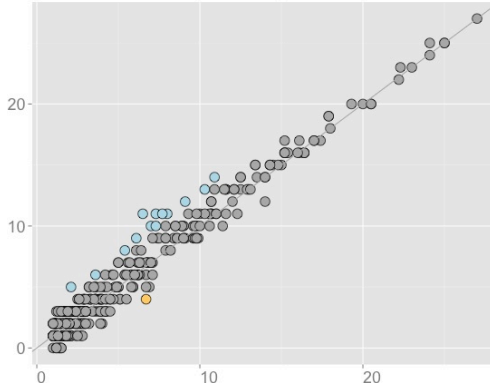
Fig. A4. Relationship among the observed and expected co-occurrences among species pairs in each of the months. We also identify the species pair interactions that are random, significantly negative, and significantly positive ($P < 0.05$). Similar results for January and May are provided in Fig. 3.



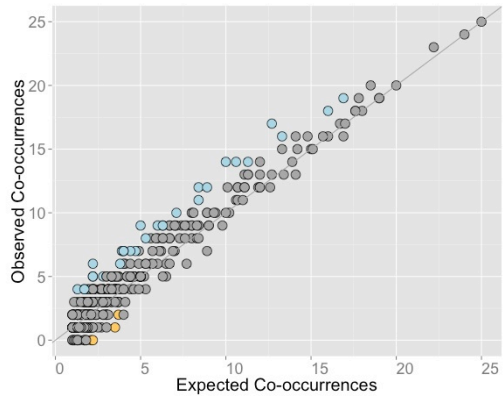
September



October



November



December

