

Figure 1. Locations of 14 sampling sites in East Asia, where TH = Tahe, ARS = Aershan, CBS = Changbaishan, DLS = Donglingshan, BTM = Baotianman, BDGS = Badagongshan, TTS = Tiantongshan, SMT = Shimentai, JFL = Jianfengling, XSBN = Xishuangbanna, GH = Guanghua, SPK = Sapporo, HMA = Hiroshima, and YS = Yushan. The fourteen sites belong to three climate zones, which are Temperate zone (Temp), Subtropical zone (Subt), and Tropical zone (Trop). The graph on the bottom left shows the numbers of overall ($\chi^2=7.582$, $p=0.02$), phytophage ($\chi^2=0.352$, $p=0.839$), and predacity ($\chi^2=1.040$, $p=0.595$) orders in temperate, subtropical, and tropical zone, “a” and “b” represent significant differences. The subset of graphs on the bottom right shows the relationship between the number of orders and latitudinal across fourteen sampling sites. Note: “*” indicated $p \leq 0.05$ and “**” indicated $p \leq 0.01$.

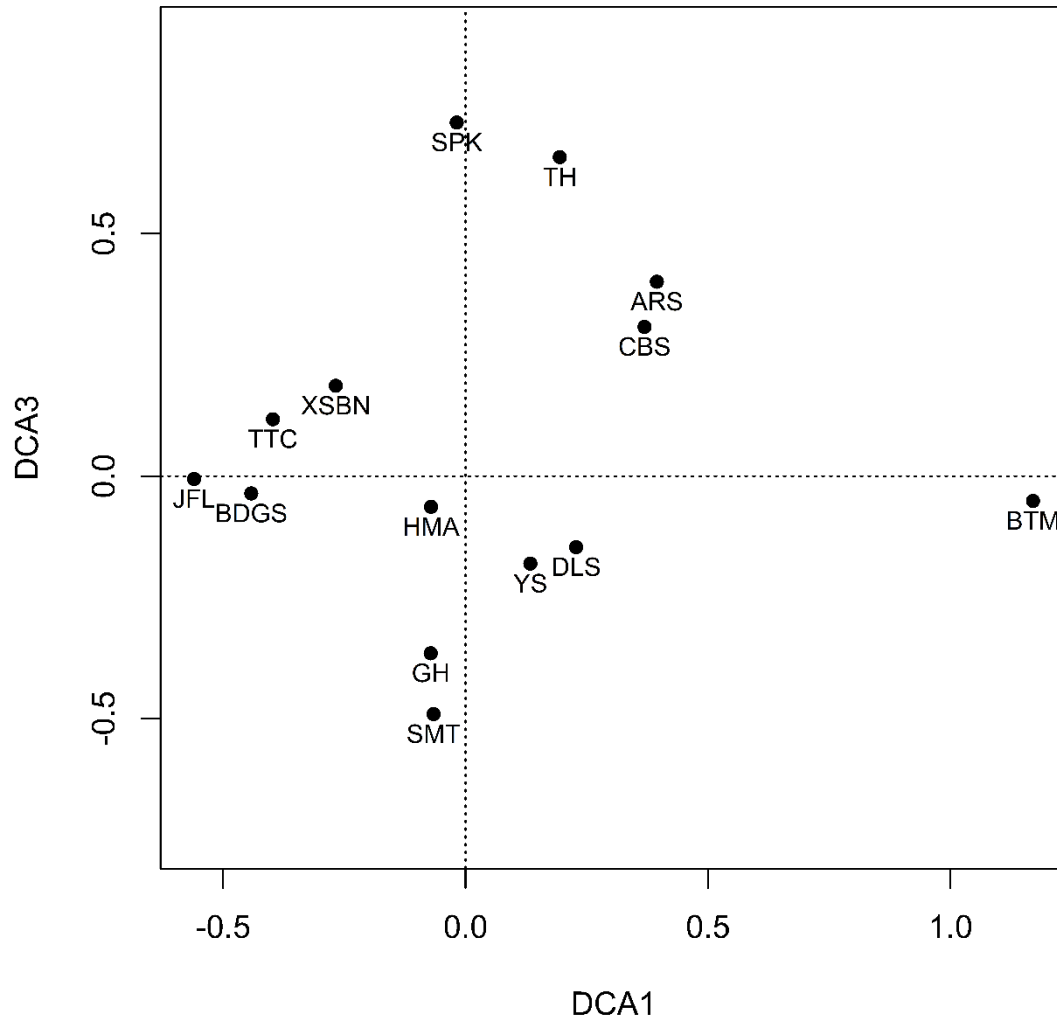


Figure 2. DCA analysis of soil fauna order compositions among 14 sampling sites in East Asia, where TH = Tahe, ARS = Aershan, CBS = Changbaishan, DLS = Donglingshan, BTM = Baotianman, BDGS = Badagongshan, TTS = Tiantongshan, SMT = Shimentai, JFL = Jianfengling, XSBN = Xishuangbanna, GH = Guanghua, SPK = Sapporo, HMA = Hiroshima, and YS = Yushan.

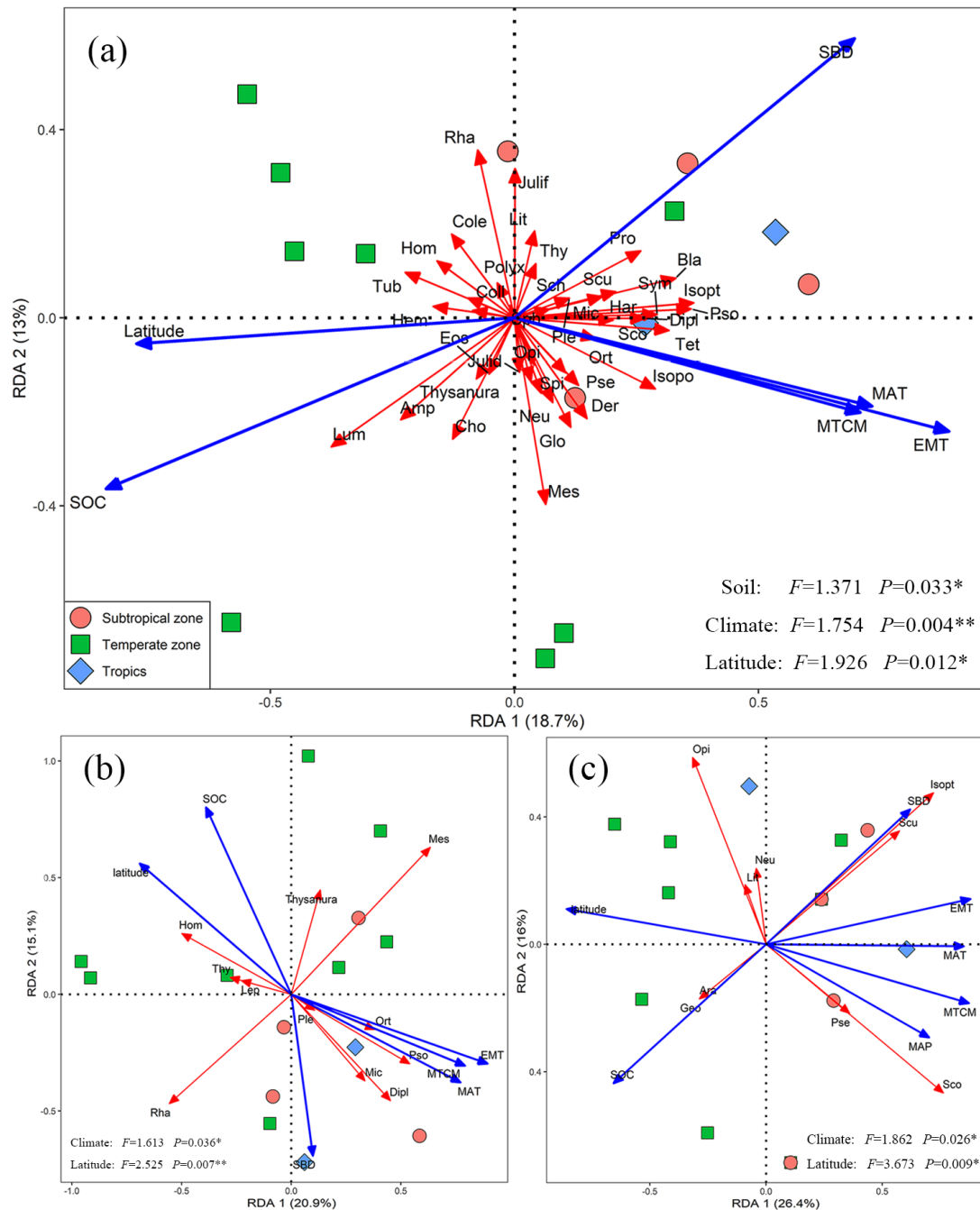


Figure 3. Ordination diagram for the RDA analysis for soil fauna distribution and environmental factors in East Asia. The (a), (b), and (c) present the overall, phytophage, and predacity soli fauna orders, respectively. The blue and red arrows represent environmental factors and orders, respectively. The red circles, green squares, and blue diamonds represent temperate, subtropical, and tropical zones, respectively. In the graphs, MAT = mean annual temperature, MTCM = mean temperature of the coldest months, EMT= extreme minimum temperature, MAP = mean annual precipitation, SOC= soil organic carbon, and SBD = soil bulk density. Climate factors included MAT, MTCM, EMT, and MAP. Soil factors included SOC and SBD. Order name abbreviations are shown in Table S2. Note: “*” indicated $p \leq 0.05$ and “**” indicated $p \leq 0.01$.

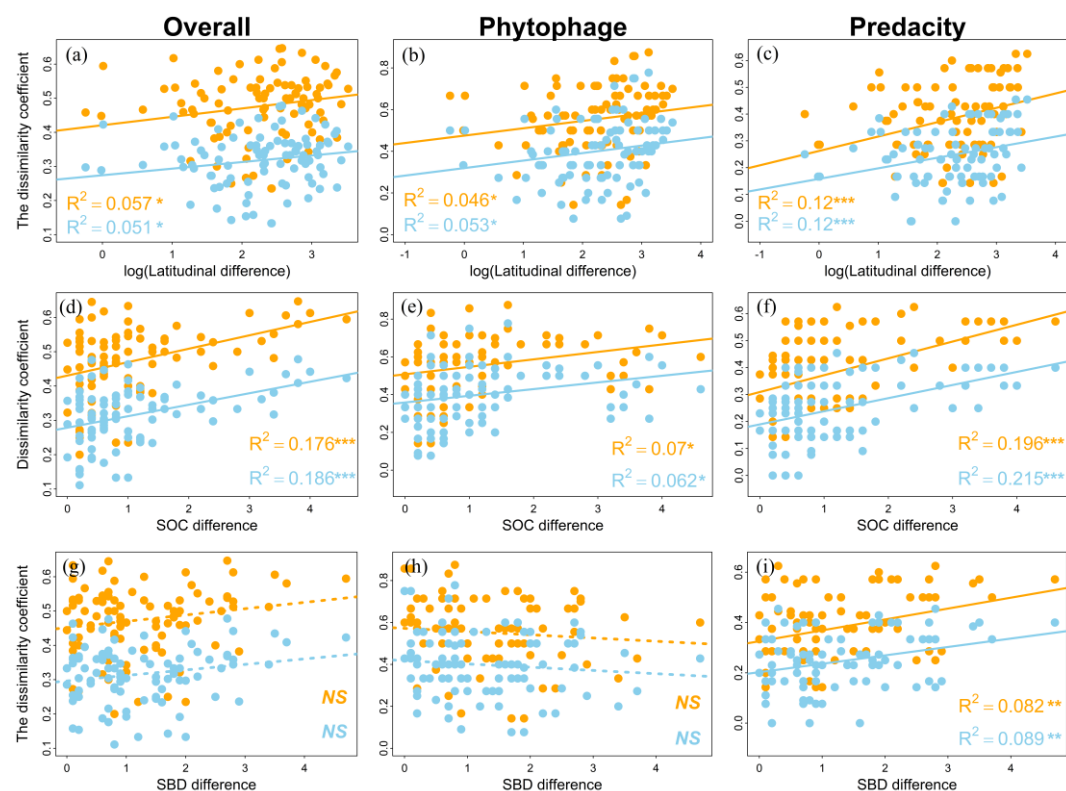


Figure 4. Patterns of overall (a), (d), (g), phytophage (b), (e), (h), and predacity fauna (c), (f), (i) in different sampling sites along the latitude and soil factor difference in East Asia. Orange dots and lines represent β_j and blue dots and lines represent β_s , $n = 91$; The “*”, “**”, and “***” represent $p \leq 0.05$, 0.01, and 0.001, respectively. “NS” indicates not significant. (Note: SOC = soil organic carbon, and SBD = soil bulk density)

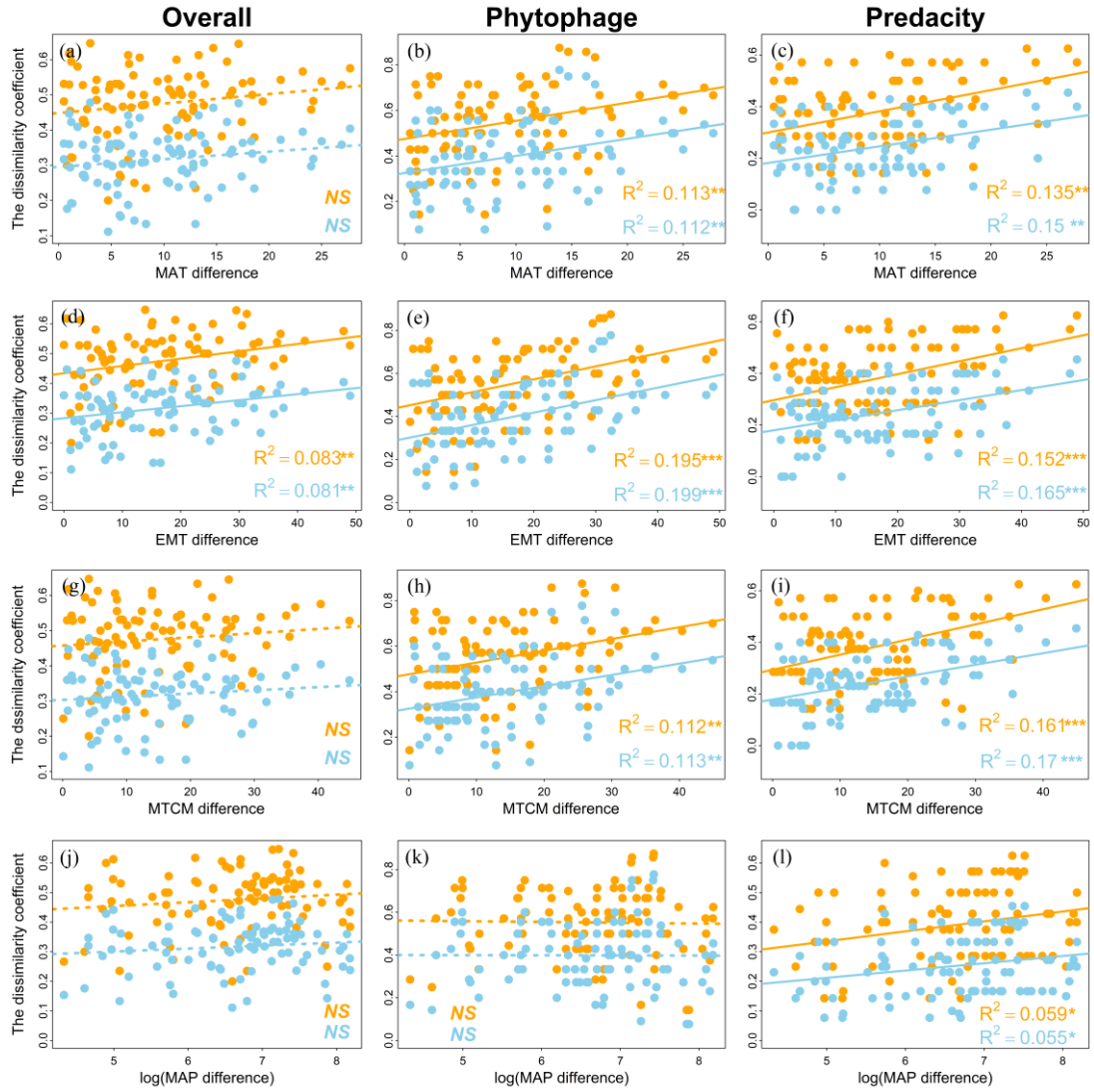


Figure 5. Patterns of overall (a), (d), (g), (j), phytophage (b), (e), (h), (k), and predacity fauna (c), (f), (i), (l), in different sampling sites along the environmental difference in East Asia. Orange dots and lines represent β_j and blue dots and lines represent β_s , $n = 91$; The “*”, “**”, and “***” represent $p \leq 0.05$, 0.01 , and 0.001 , respectively. “NS” indicates non-significant. (Note: MAT = mean annual temperature, MTCM = mean temperature of the coldest months, EMT = extreme minimum temperature, MAP = mean annual precipitation)

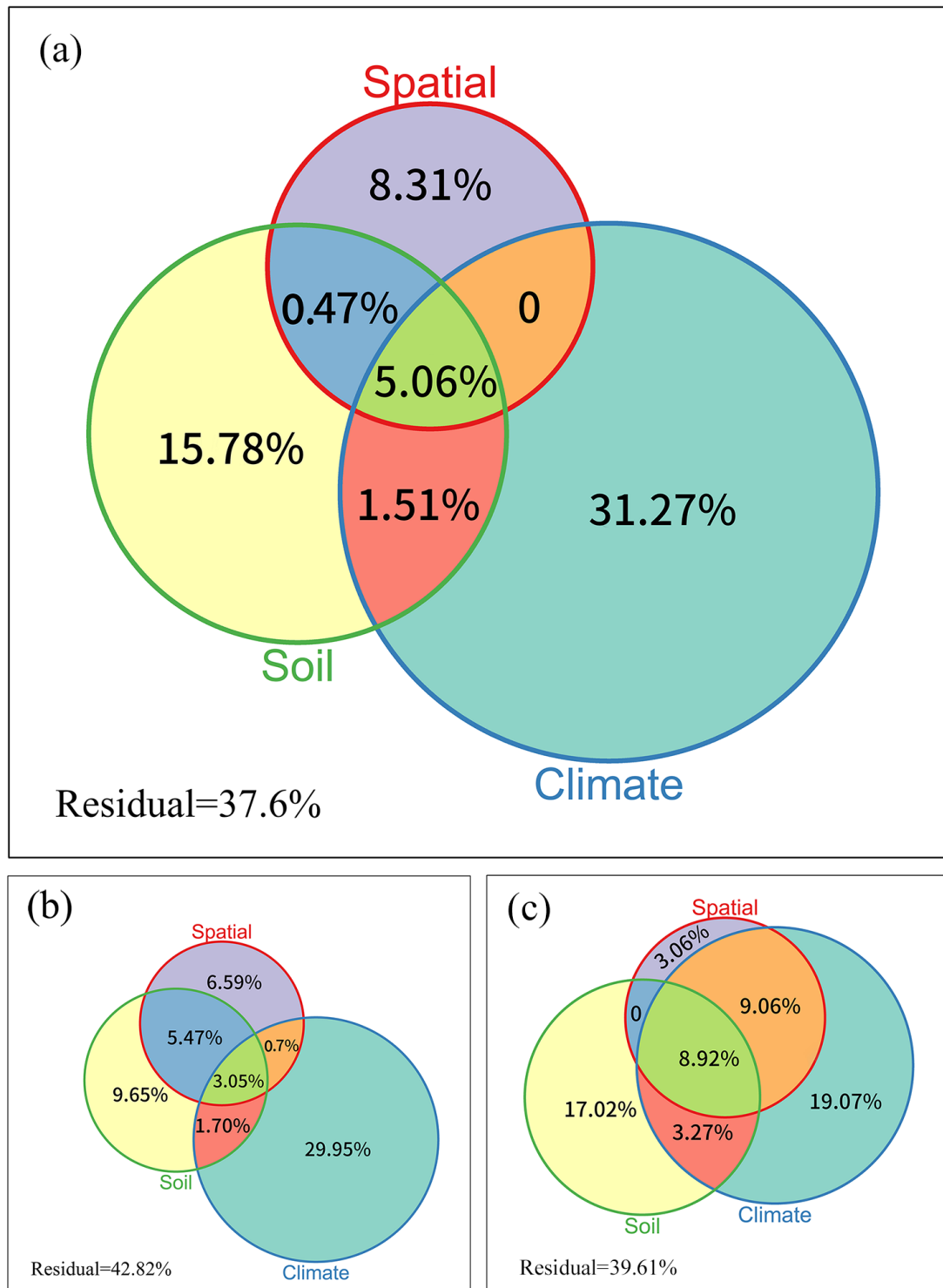


Figure 6. Percent of explanation for the effects of climate, soil, and spatial processes on the Overall (a), Phytophage (b), and Predacity (c) fauna orders composition in East Asia.

