

Figure S1. Sampling trees of leaf mines on *Quercus variabilis* Blume at Baotianman, Henan (a-c: Baotianman Scenic Area; d: Houyemiao, Qiliping County). The numbers in pink indicated the order of tree samplings. The base map of contours was from MapTiler. The imagery was from Bing Virtual Earth. The map was constructed using QGIS 3.26.3.







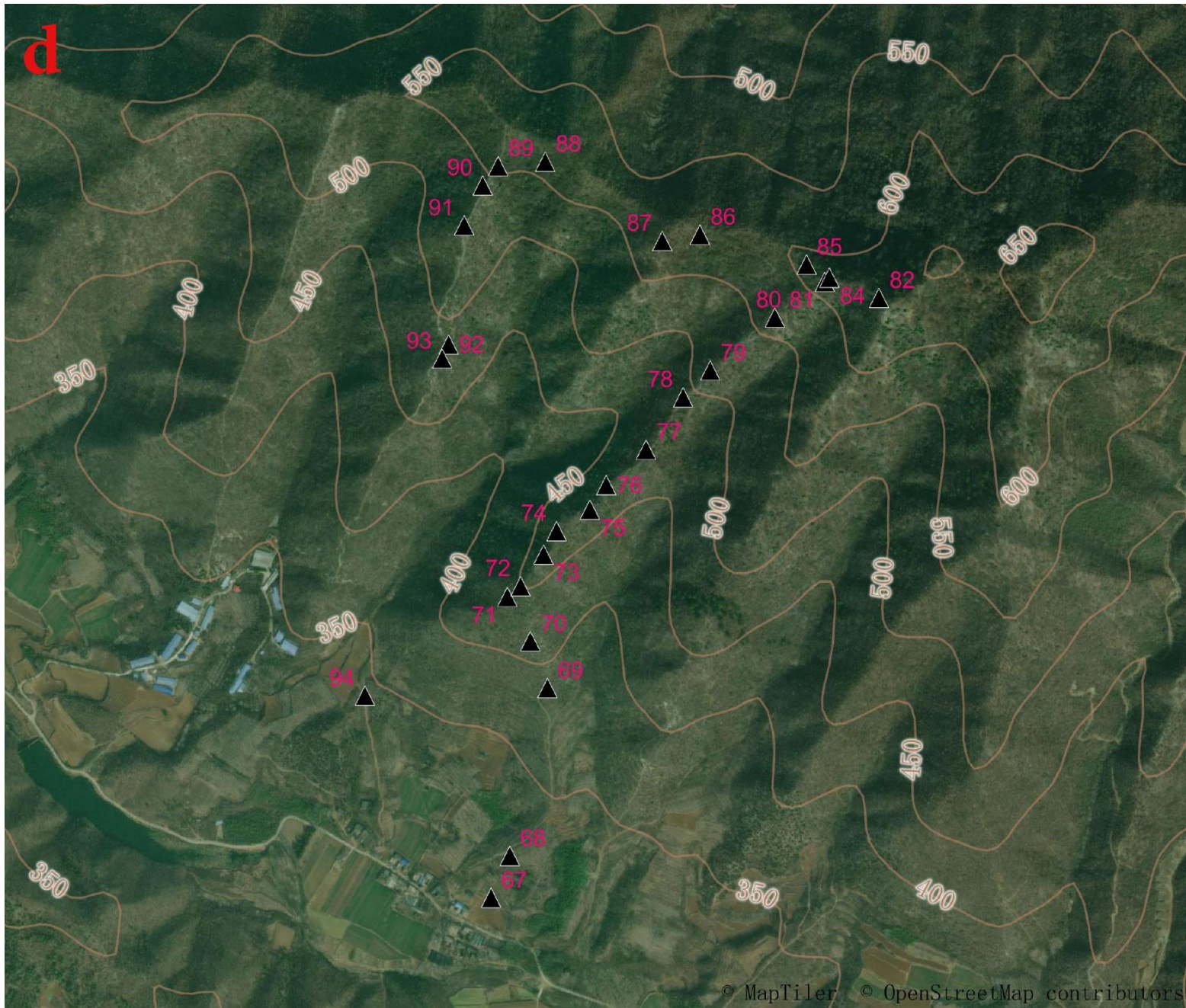


Figure S2. Phylogenetic tree of leaf-mining insects on *Quercus variabilis* Blume

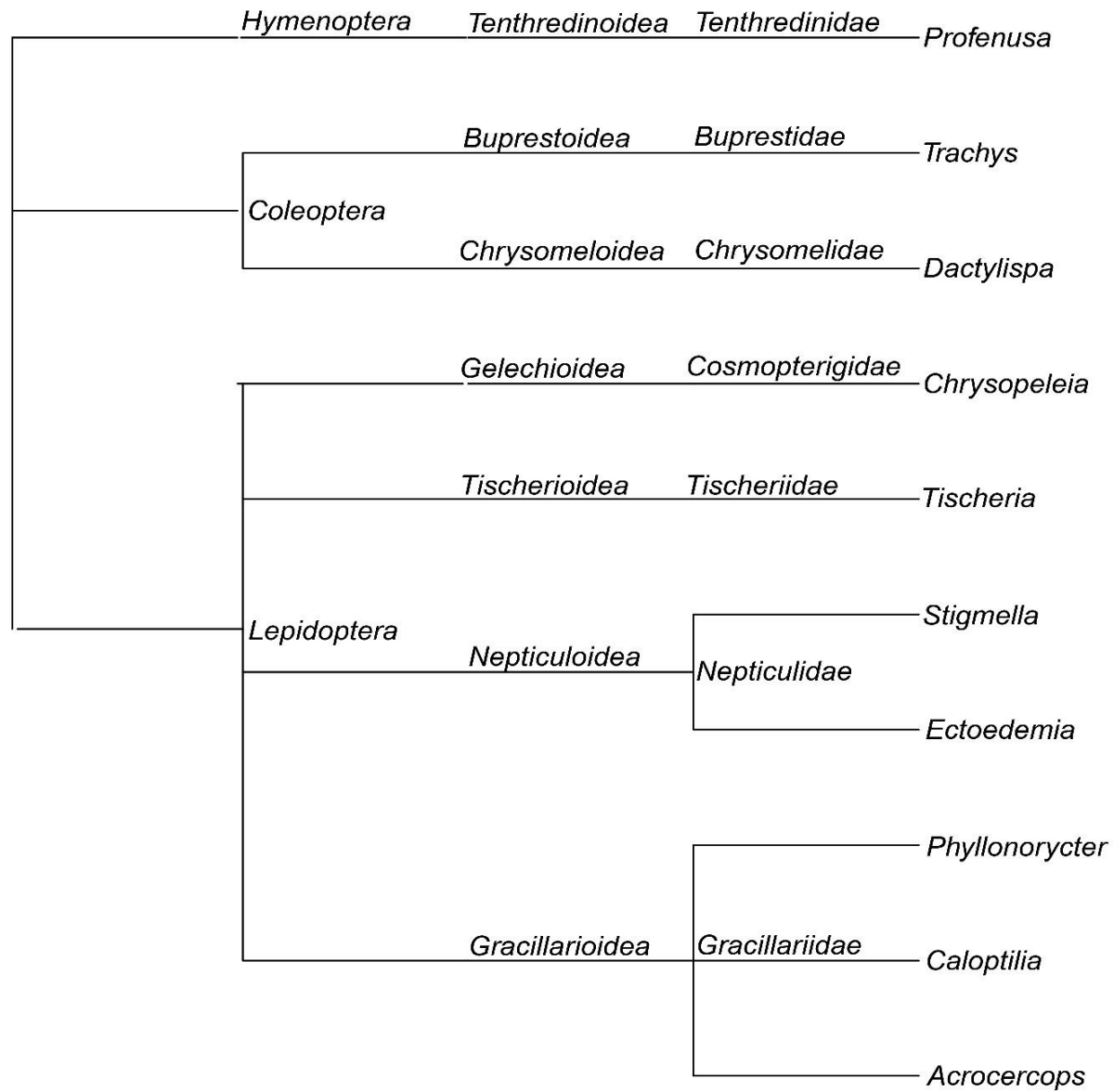


Figure S3. Clustering dendrogram of leaf-mining insects on *Quercus variabilis* Blume based on functional traits

