

Metagenomic comparison of herbaria vs. field-collected leaves of a wild crop relative of tomato (*Solanum chilense*)

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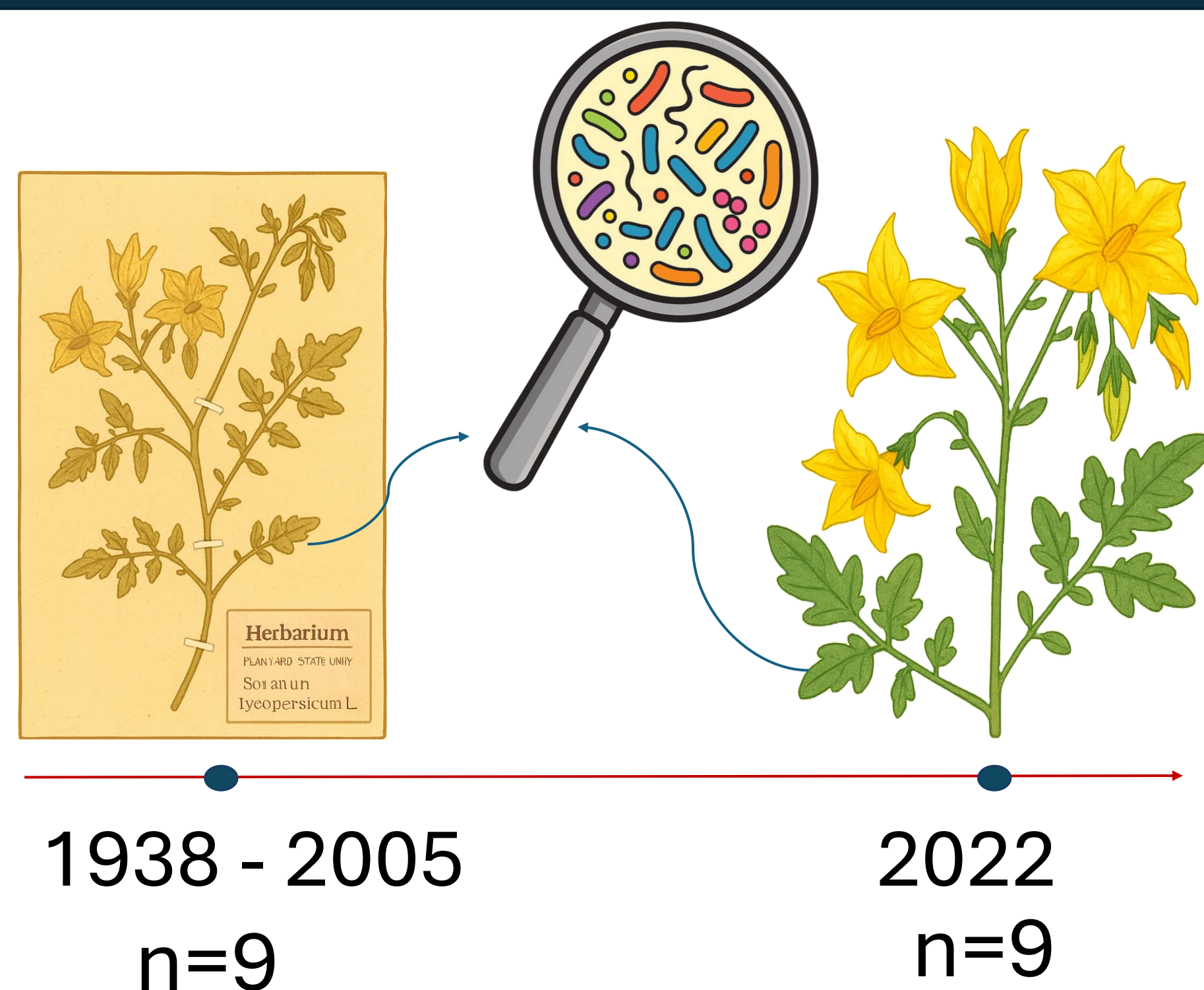
Background

Solanum chilense is a ideal sample for metagenomic analysis because of its natural resistance to environmental stresses and diseases.

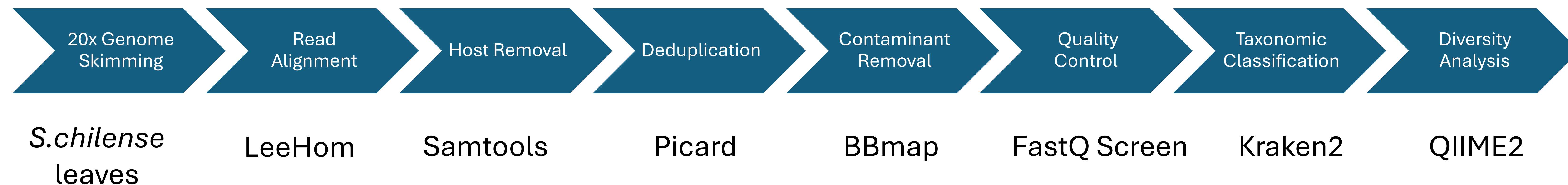
Little is known about the microbial/fungi composition of this species in the wild, because of how difficult it is to conduct field studies in natural populations in Peru and Chile

Here, we compare the metagenomic profiles of herbarium samples to samples collected in the field, to see if we can recover similar diversity patterns.

Objective



Workflow



Preliminary results

Fig. 1. Taxonomic diversity of field and herbarium samples

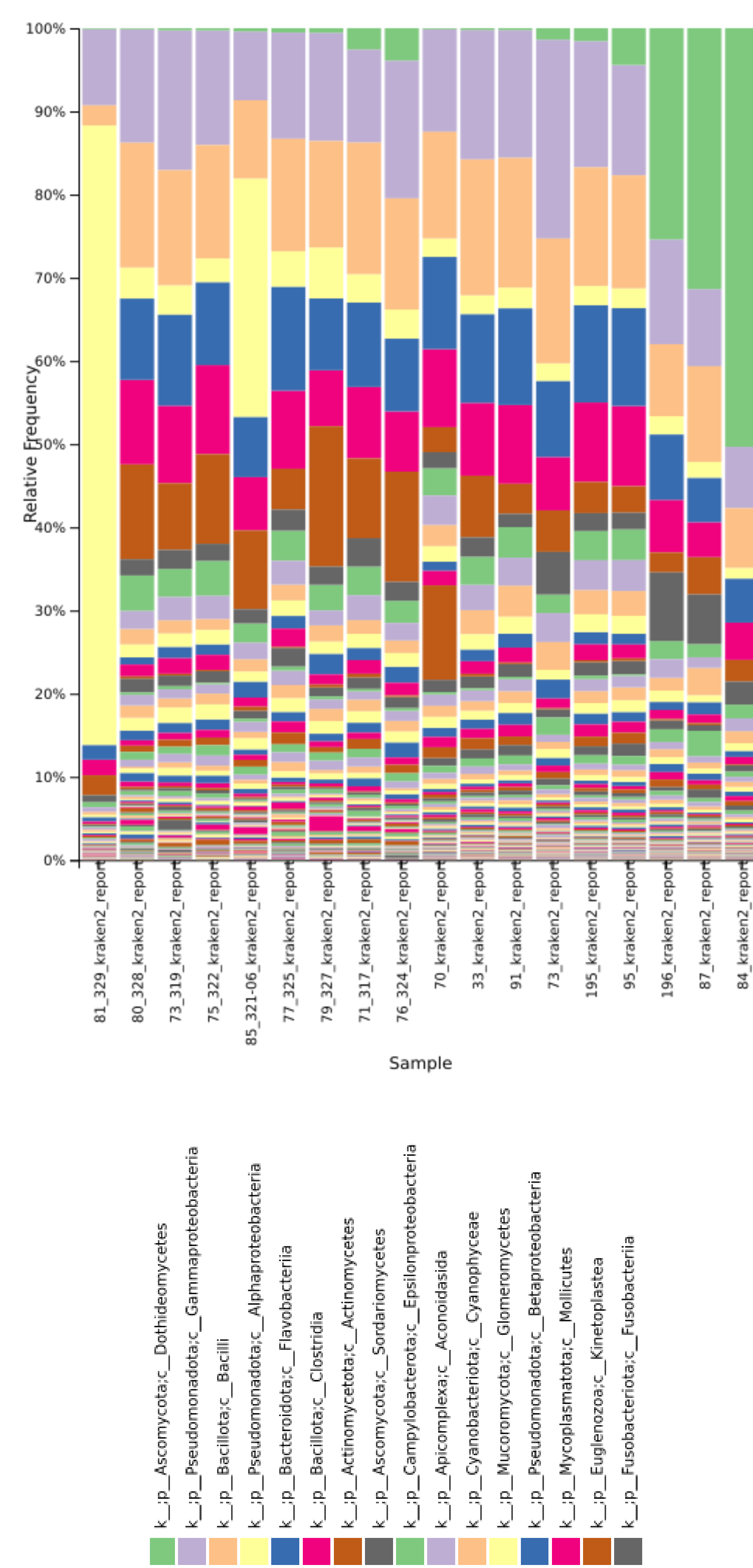


Fig. 2. PcoA of Bray-Curtis, showing the beta diversity between samples

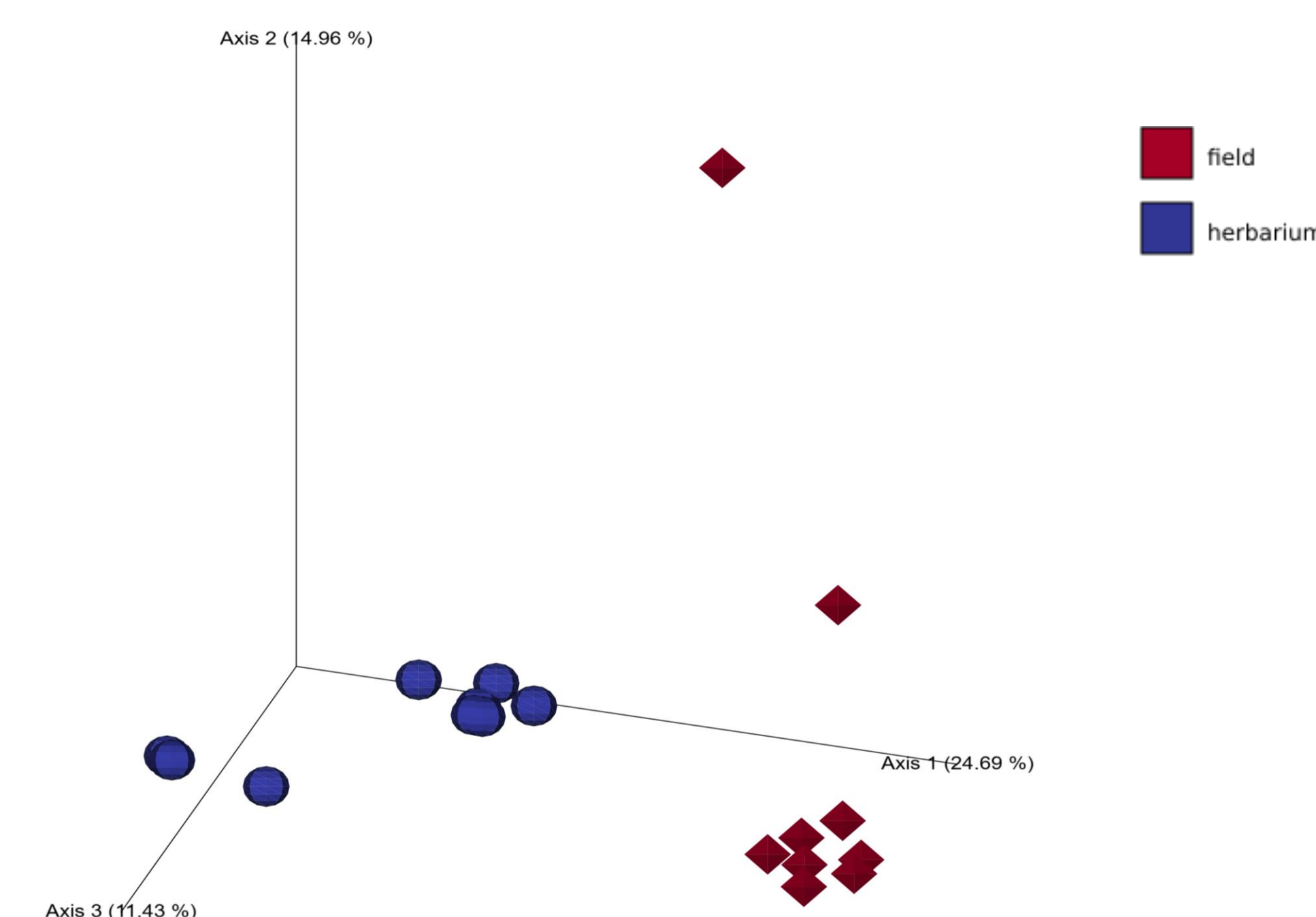
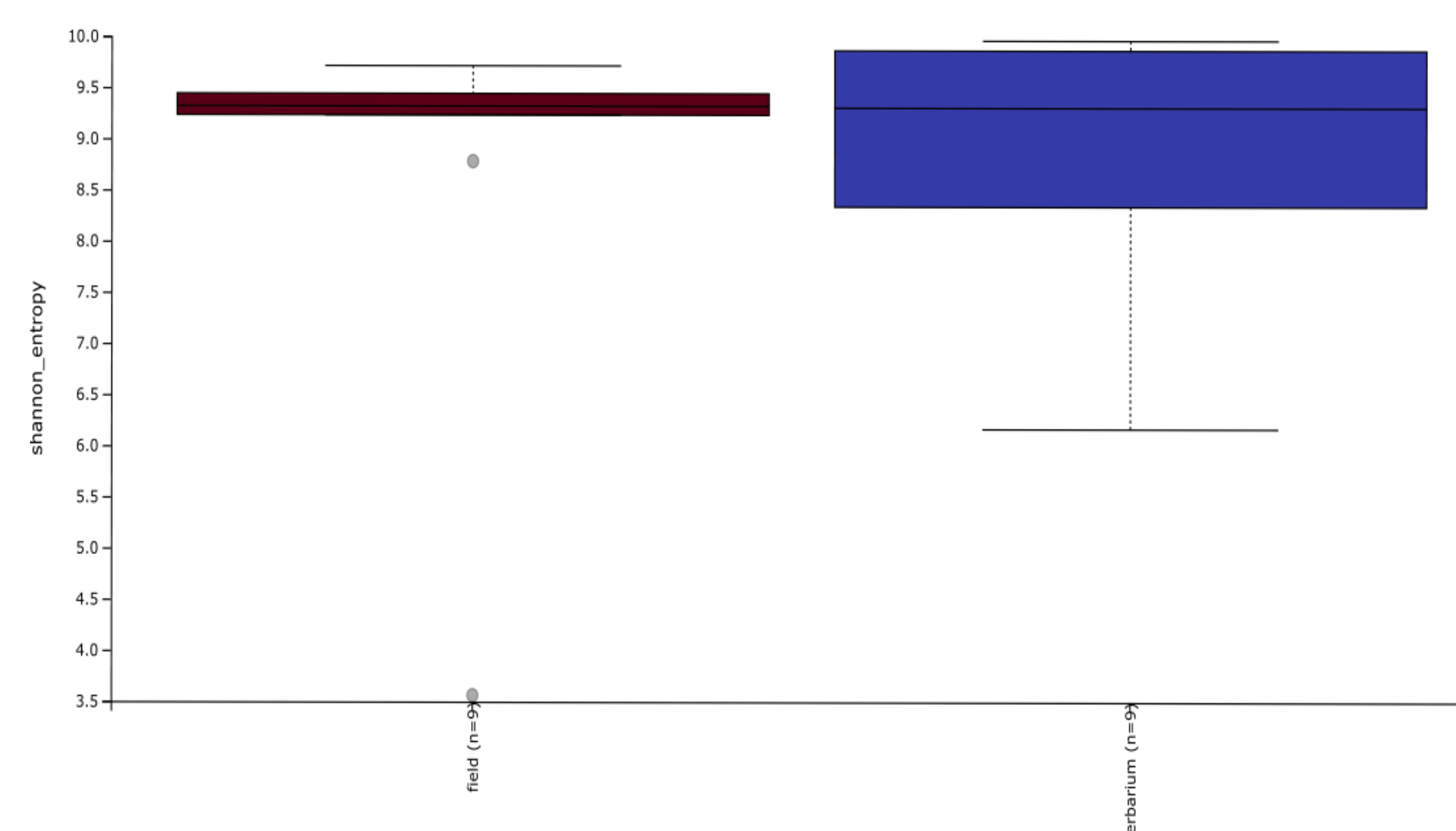


Fig. 3. Boxplot and Kruskal-Wallis test of Alpha diversity



Perspective

Our results suggest that broadening the scope of research to include plant characteristics such as disease resistance, along with increased field sampling from diverse locations, could be a promising direction for future studies.

Funding & Scripts



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Scripts can be found here on Github:

