Lifemapper on SAGE2

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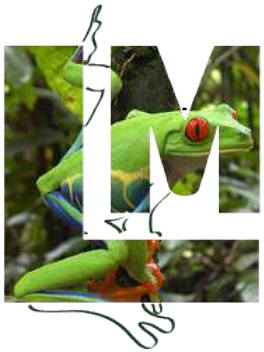
Project Overview

- A collaboration between myself and researchers at the University of Kansas
- **The goal**: make Lifemapper accessible from SAGE2



Lifemapper

SAGE2™

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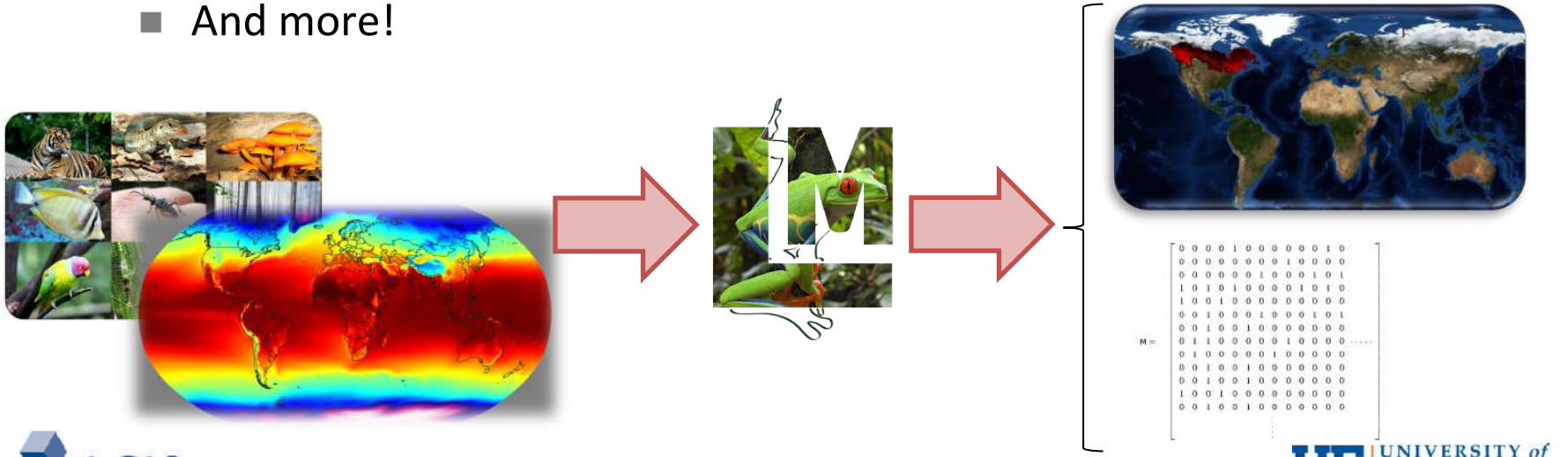
What is Lifemapper?

- Biodiversity modeling software
- Inputs:
  - Species occurrence data
  - Environmental data
- Outputs:
  - Potential habitats for species
  - Correlations between species occurrences
  - And more!

Lifemapper



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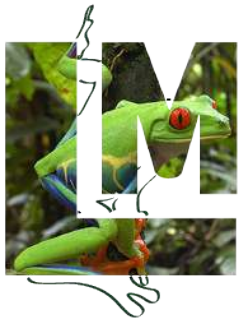
BiotaPhy

- The *BiotaPhy* project:

Connect biodiversity projects
through workflows with
integrated data providers



Lifemapper

OPEN Tree of Life

iDigBio
Integrated Digitized Biocollections

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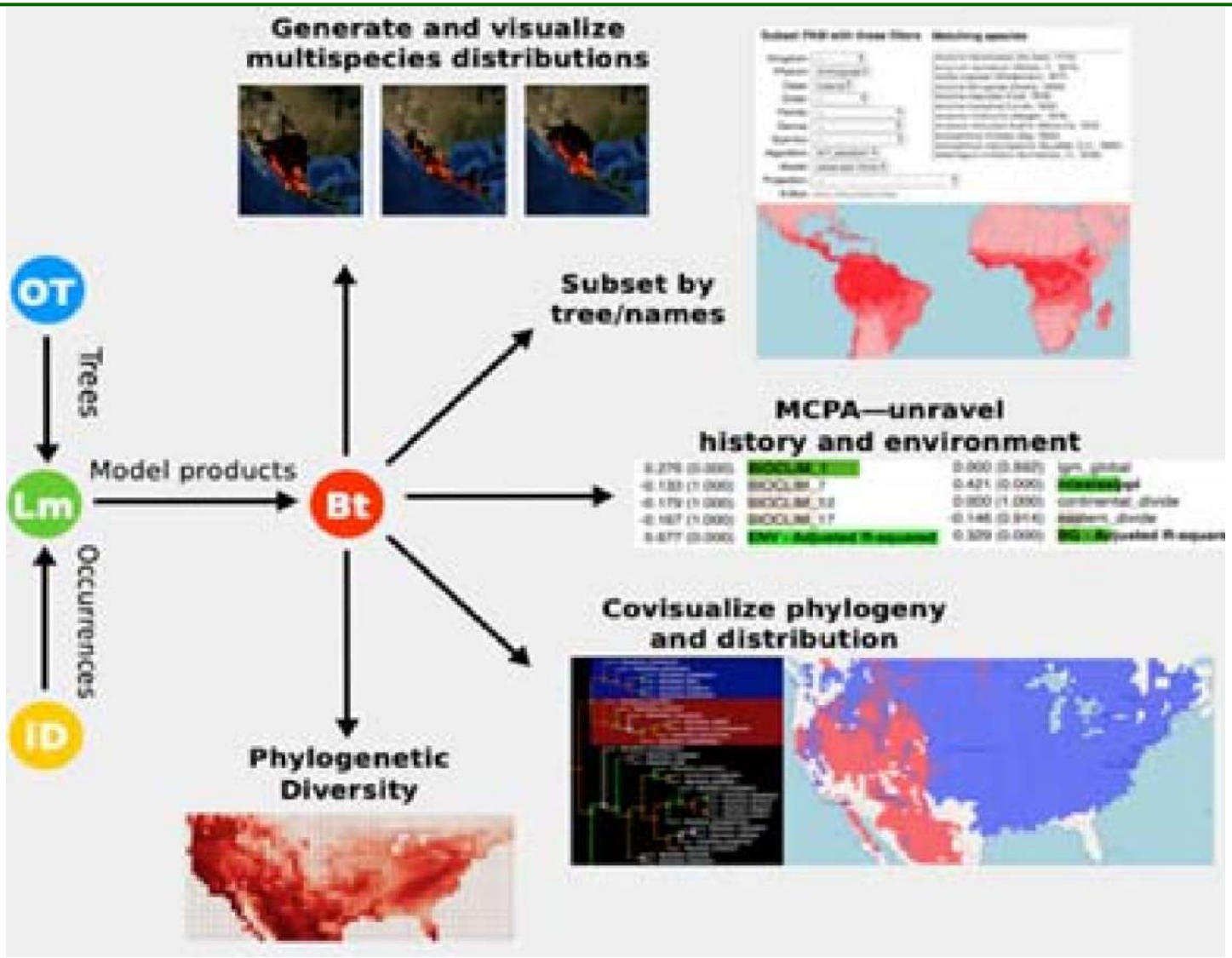
BiotaPhy



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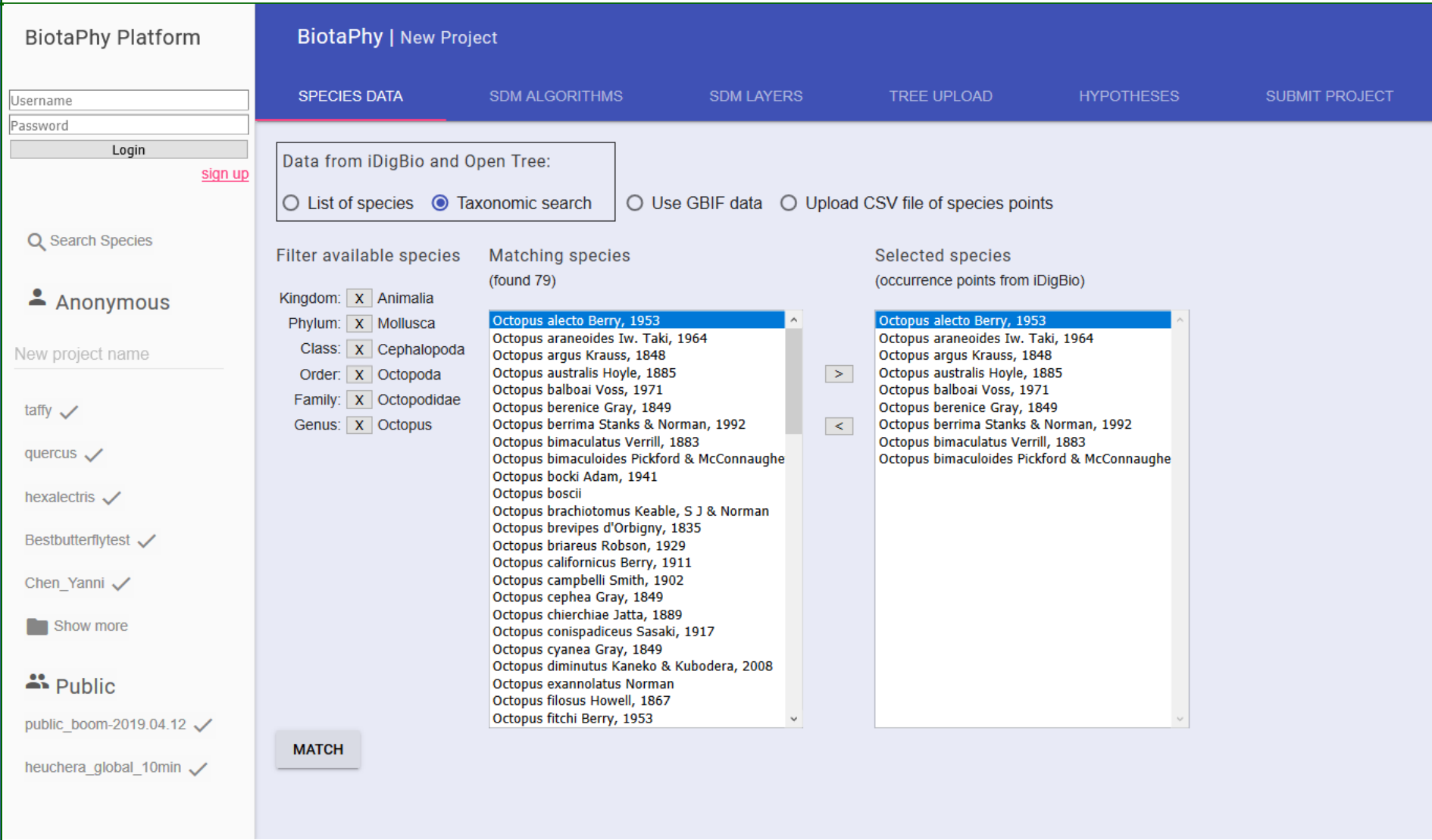
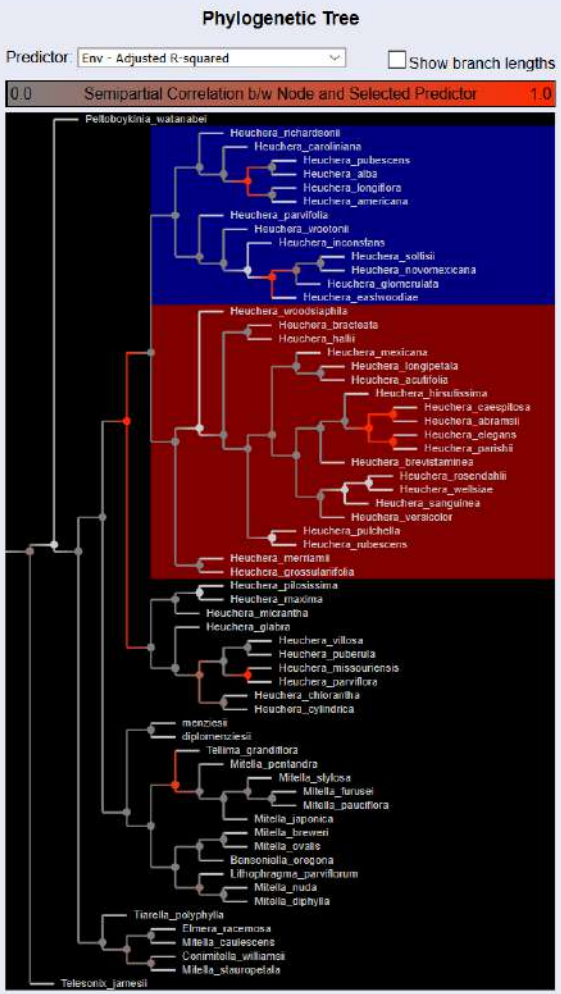
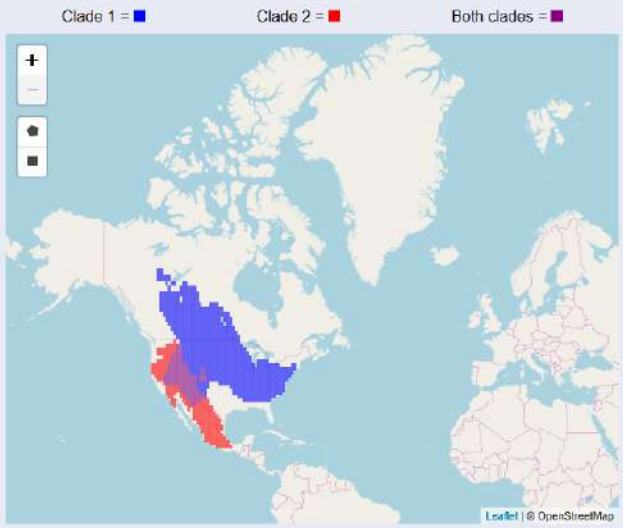
BiotaPhy's Online Interface



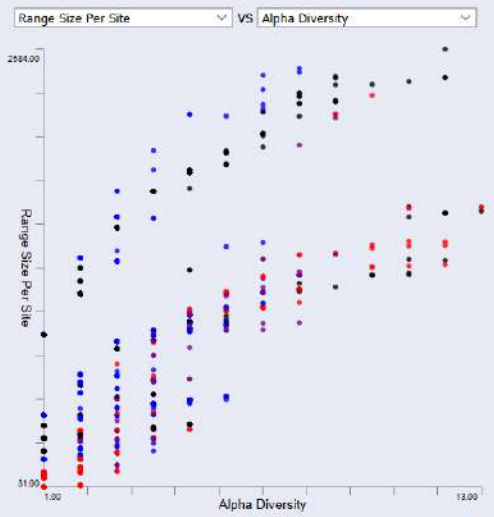
BiotaPhy's Offline Interface



Node color indicates correlation between sister clades and the selected predictor. Selecting a node highlights aggregated presence of species of one clade in blue and the other in red. Sites where species of both sides are present are purple.



The map shows sites where the selected species are present. Use the select by bounding box or by polygon tools to highlight in the tree which species are present at those selected sites.



The scatter plot shows relationships between site based statistics; each dot represents a single site. If sites in the map are highlighted, the corresponding sites are highlighted in the same color in the scatter plot. You can brush sites in the plot by clicking and dragging to create a selection box. Doing so will highlight the selected points as well as those sites on the map and the species present at those sites in the tree. Use the two drop down boxes to select the metrics to use for the X and Y axes.

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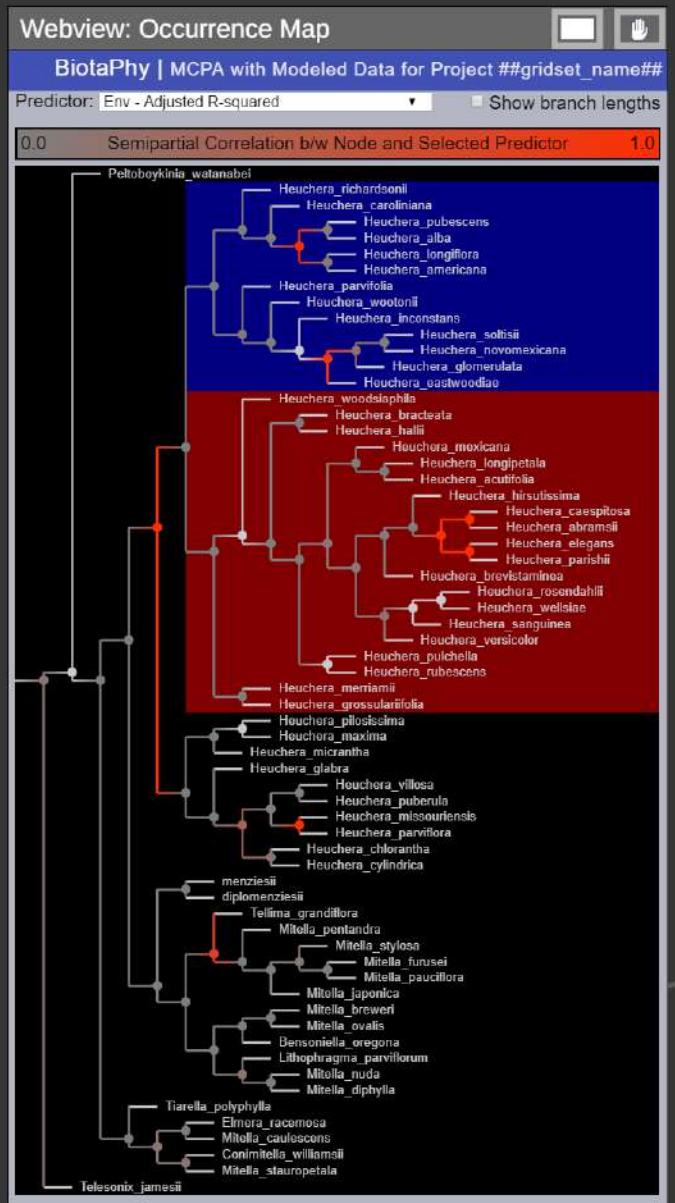
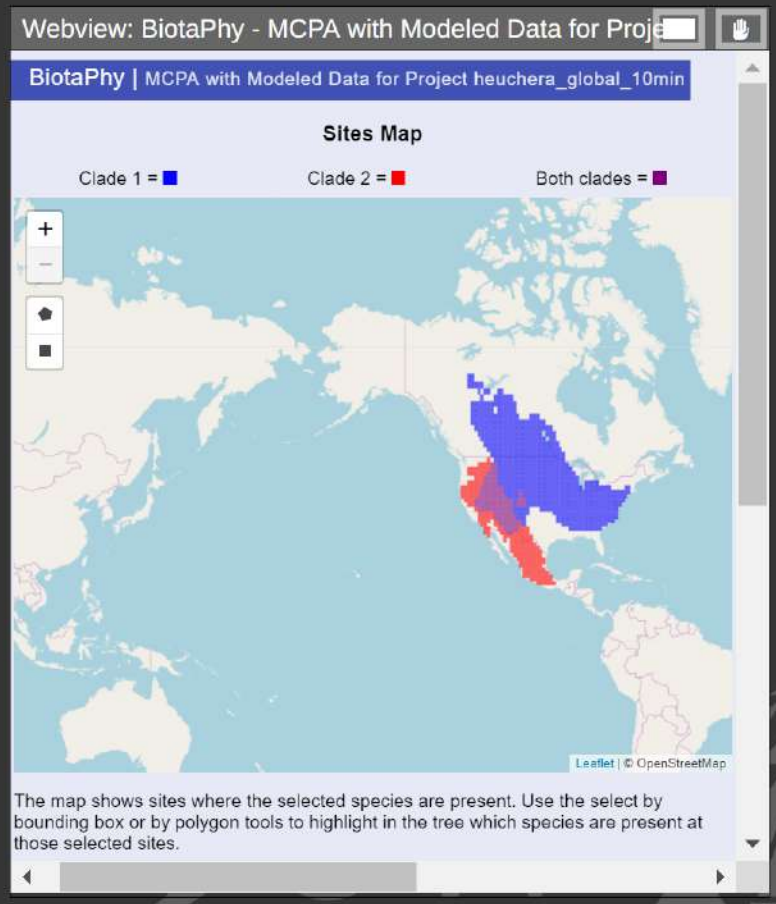
Lifemapper on SAGE2

10:35 am localhost:9292





Lifemapper on SAGE2

- The vision for this app:
  - Allow users to easily share visualized Lifemapper results with each other
  - Facilitate side-by-side visual comparison between different packages
  - Make Lifemapper more accessible

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Future Work

- Port the BiotaPhy online interface into SAGE2
  - Requires communication with Lifemapper
- Cross-package features
  - Visualize data from multiple packages on one map
  - Allow users to submit multiple packages back to Lifemapper for correlation analyses
  - Then provide visualizations for these new results

Thank you!

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