

Introduction:

Medicinal plants have always been a traditional staple within our region. We now have the resources available to fully and properly examine the functions and features of these plants. This information will give us an opportunity to better understand what makes the plants beneficial for humans and to underline mechanisms for their efficiency.

Objectives:

- Catalog traditional medicinal plants in the region.
- Investigate their traditional uses and analyze their chemical compounds.
- Determine specific reactions within the human body.

Hypotheses:

- Plants that are used in traditional medicine are good candidates for investigating and discovering drugs useful to treat human ailments.
- Plants in related taxonomic groups share identifiable medicinal uses and chemical components.

Methods (Fig. 1):

- Research Apache Chiricahua ethnobotanical data from biodiversity portals, herbaria and literature.^{1, 3, 4, 6 and 9}
- Compile, inventory, and classify plants traditionally used using the plant classification system according to GBIF and Tropicos^{3, 4}.
- Identify plants uses as: 1) Drugs, 2) Food, 3) Fiber, 4) Ceremonial activities, 5) Dyes and 6) Other (e.g. building materials, pulp wood, etc.).
- Create a medicinal plant checklist on-line to provide scientific classification, scientific & common names, plant descriptions, ethnobotanical uses & photographs.

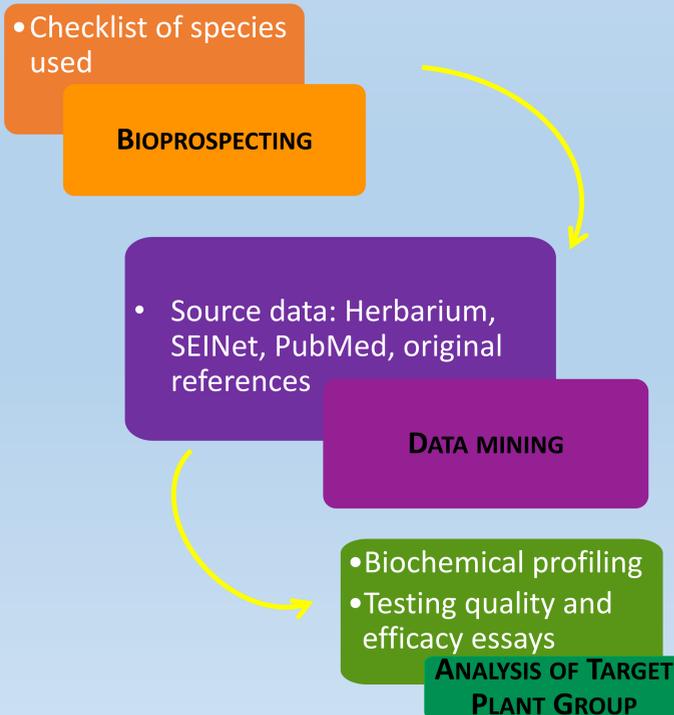


Figure 1. Methodology used in this research project.

Results:

- Found general uses for Chiricahua plants (36 families, 70 genera, 96 species; Figs. 2 & 3)
- Produced an online catalog in SEINet (Fig. 2). (ambiguity in reports still remains)
- Analyzed select members of Lamiaceae (mint family)
- Studied herbarium collections and geographic distribution of beebalms (*Monarda*) in New Mexico
- Identified uses of *Monarda* (e.g., medicinal)



Figure 2. Catalog of Chiricahua plant species with medicinal potential

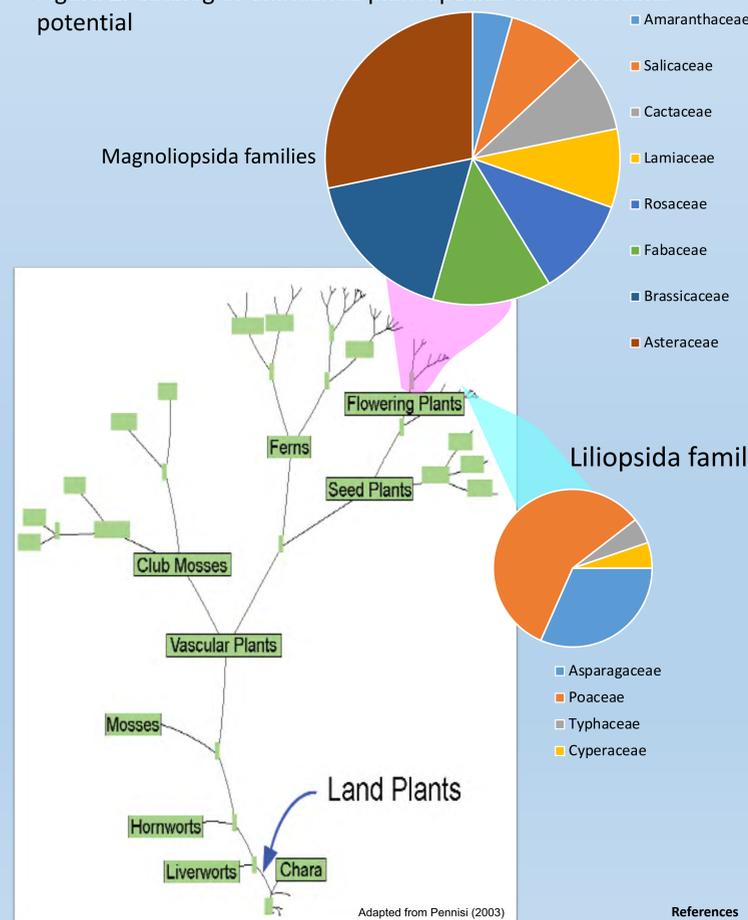


Figure 3. Classification and biodiversity of healing plants (12 families shown) used by Apache Chiricahua people, New Mexico.

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NM native *Monarda* species (Mint family)

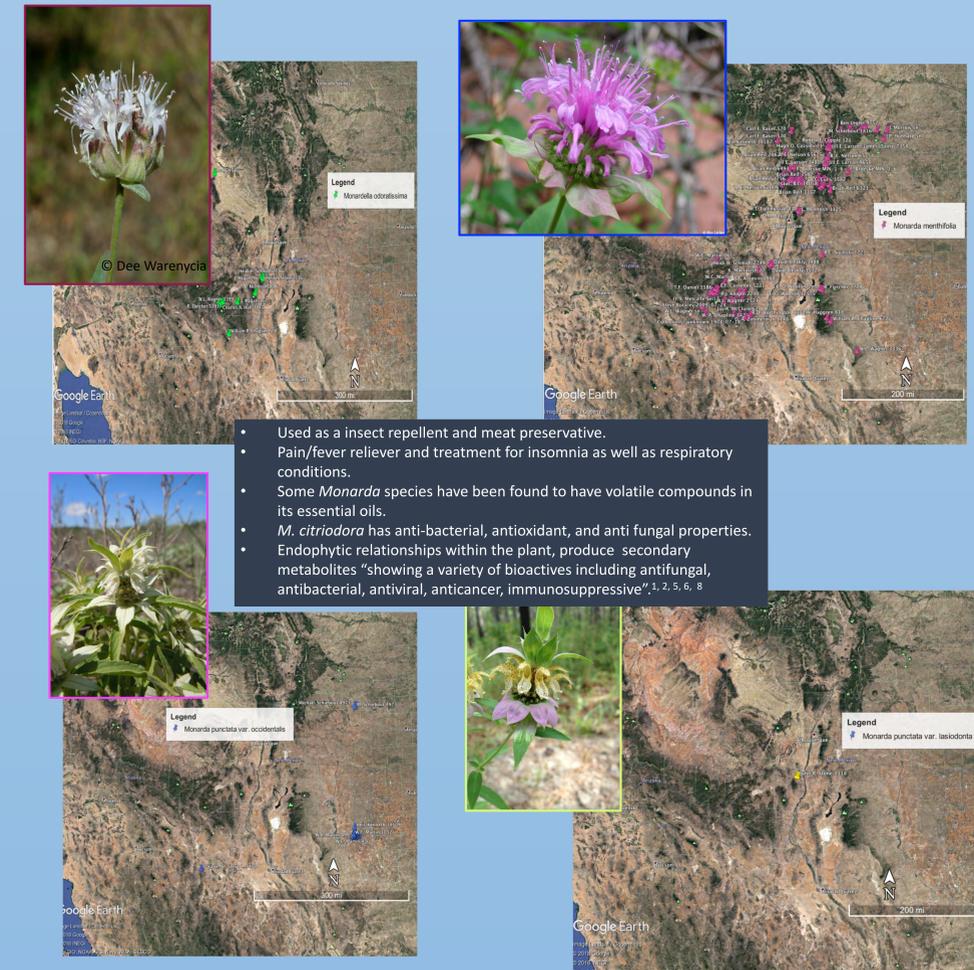


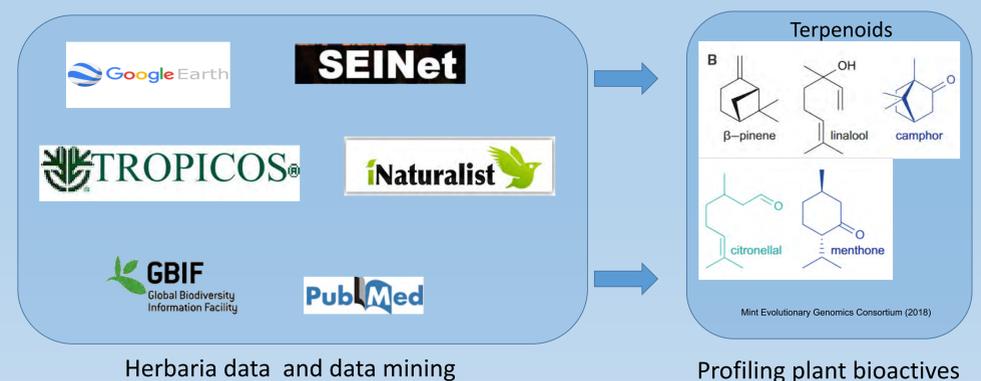
Figure 4. Geographic distribution and uses of four *Monarda* species in New Mexico (Photos taken from SEINet).

Conclusions & Future Directions:

This research has identified members of the *Monarda* genus as candidate species for future chemical analyses. A report of Oswego-Tea (*Monarda fistulosa*) in the literature lead to the investigation of 21 additional taxa within the genus in the New Mexico region.

In a second phase of this research and once a native target species is selected, we will conduct further analyses including:

- Identification and collection of the native species in the field
- Isolate native plants in greenhouses
- Identify the plant bioactives in the lab



References

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