



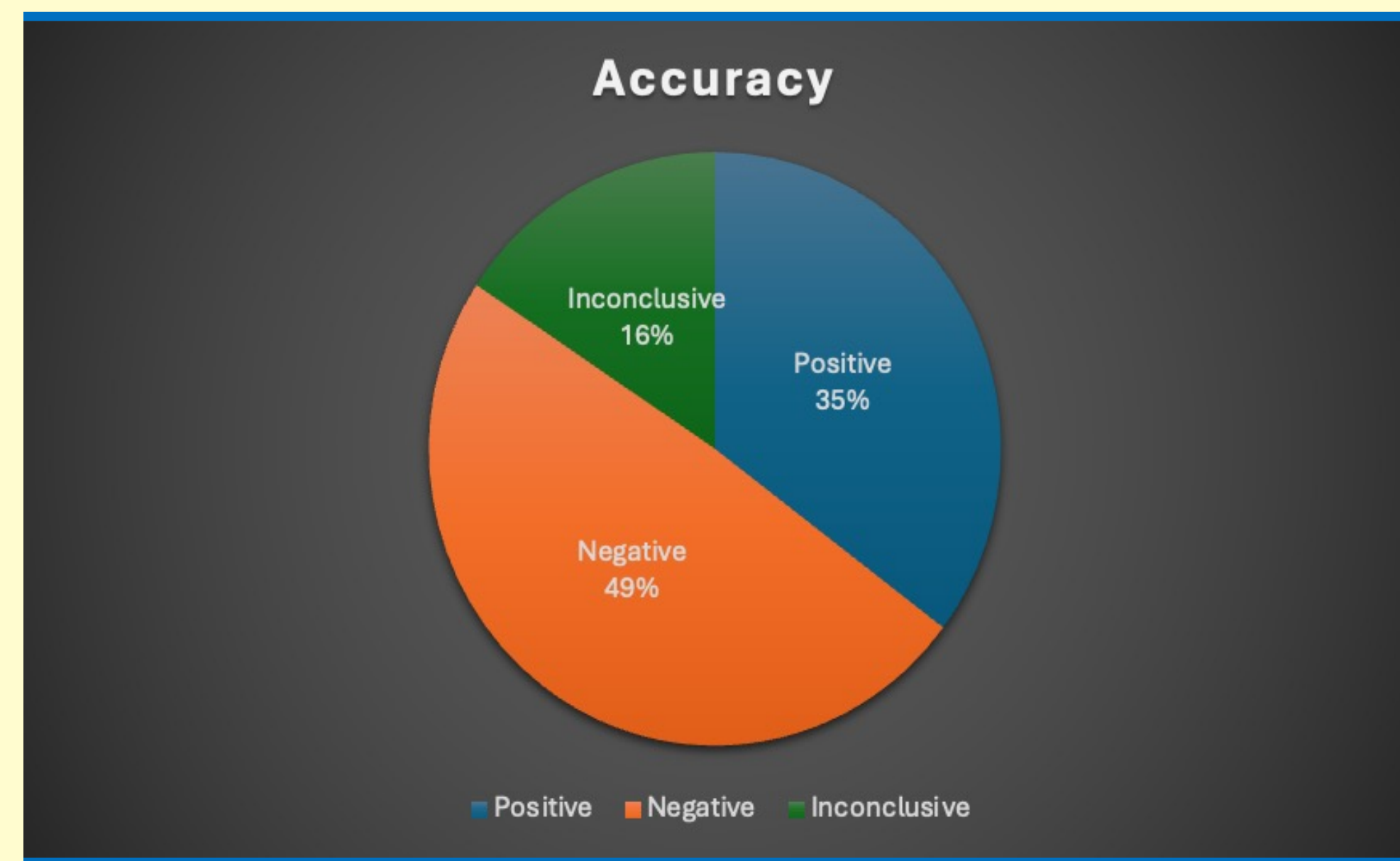
Deadliest Plants of Alaska: An Exploration and Identification of Poisonous Species and Their Look-alikes



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To combat inaccurate and misleading information about toxic plants, I aim to explore, compare and contrast toxic plants and their non-toxic doppelgangers with illustrations and charts that will benefit the foraging community. Providing updated and accurate information as to the appearance, toxicity, first aid and poison control protocols resulting from comparative quantitative study and Indigenous knowledge will help ensure a safer Alaskan botanical/ethnobotanical community exploring Alaska's biodiversity.



Accuracy of Plant ID Apps Example 1

illustrates the outcome of my first experiment using Plant Identification Applications. Search engines were utilized to obtain images of highly toxic Alaskan botanicals and their look-alikes from web sources. All of the photos have been confirmed visually by an expert. Plant identification apps were employed to test their accuracy against the photos. **50% of the toxicity and edibility data was missing or incorrect.** The results are indicative of what may occur when a fledgling forager attempts to distinguish edible plants from poisonous "dead" ringers.

Cicuta virosa (water hemlock)

TO EAT, OR NOT TO EAT?

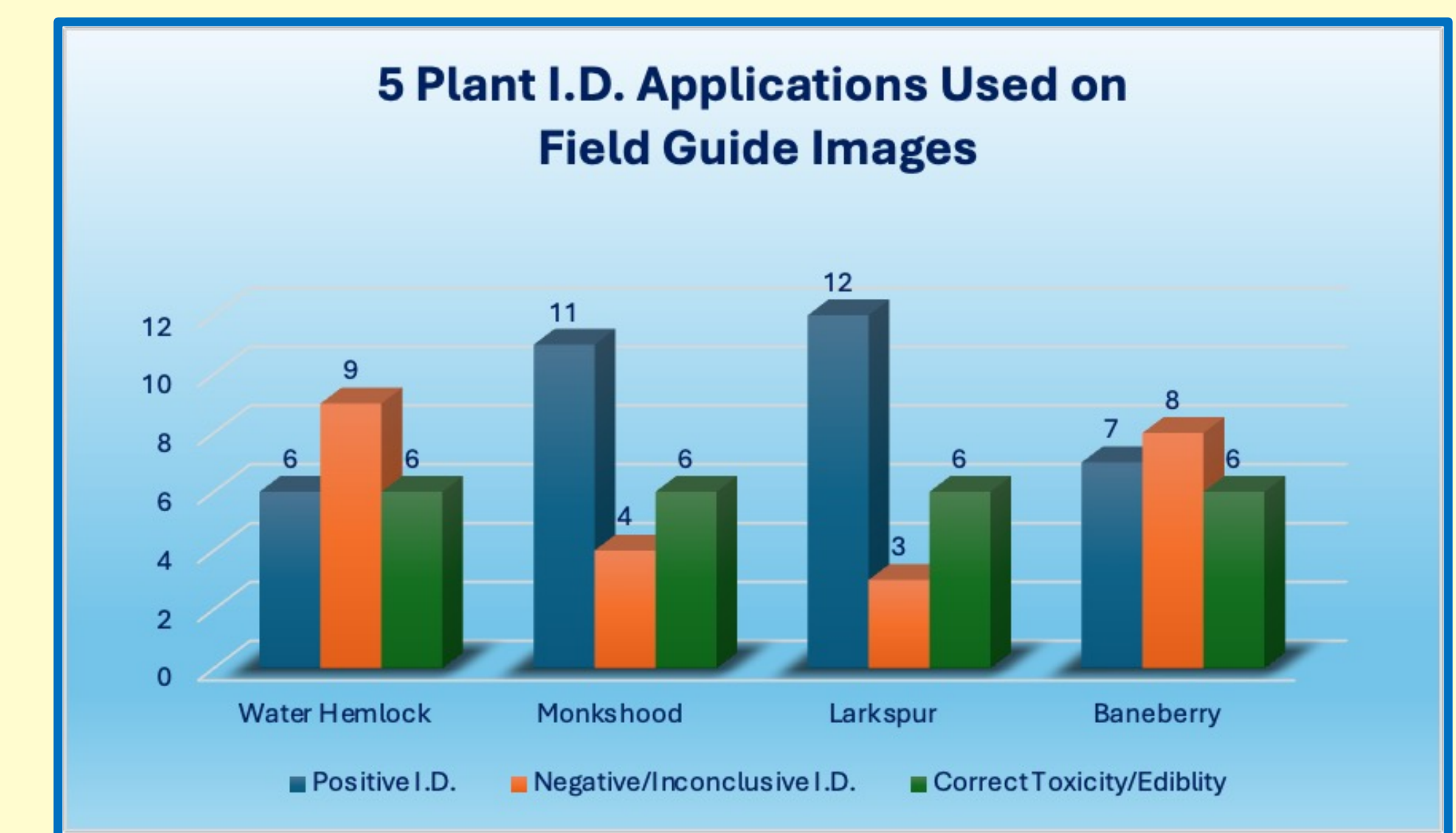
Angelica lucida (wild celery)



POISON

Conflicting Concerns:

One take: tell these plants apart by slicing the root vertically. Water hemlock has horizontal chambers while wild celery has a solid root structure and no chambers. [1]
Take two: wild celery roots are hollow inside. Sometimes the root hollow has chambers. The root of a young water hemlock may appear solid. [2]



Accuracy of Plant ID Apps Example 2

reveals the result of my second experiment. Images of each of the four deadly toxic Alaskan plants are selected from published field guides and scholarly materials. The images were tested against the same plant identification apps from Example 1. **Of the 15 tests regarding each specific plant, less than half were given the correct toxicity rating.** Two of the ID apps identify the plant species without displaying toxicity or edibility data. This information must be sought out by the user.



POISON



POISON

To Learn More About This Project Scan QR Code Below



- * Completed research
- * Research to come
- * Poison Plant Toxicity Information
- * All resources and credits



Actaea rubra (Baneberry)
As few as 6 Baneberries can kill an adult.



Viburnum edule
(highbush cranberry)

Preliminary Research Findings

- Frequent errors in ID Apps.
- Increase in foraging wild plants
- Need for wild plant poisoning data compilation and public access.
- Some discrepancies in poison plants of AK identification publications
- For updated manuals regarding identification of toxic plants in Alaska

Acknowledgments

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Highly similar leaf structure is characteristic of *Aconitum delphinifolium* (larkspurleaf monkshood), *Geranium erianthum* (wild geranium), and *Delphinium glaucum* (larkspur). All are present in the same habitat.

References

- [1] Heller, Dr. C.A. (1993). Wild Edible and Poisonous Plants of Alaska. Cooperative Extension Service. University of Alaska Fairbanks & USDA Cooperating.
- [2] Jones, A. (1983). Plants That We Eat. (Second Edition) University of Alaska Press Fairbanks.

I acknowledge that I reside, work and study on the Troth Yedtha' campus in Fairbanks, Alaska, the ancestral and unceded traditional territories of the Dene People of the lower Tanana