

The allure of *Hellebore*: A retrospective review of hellebore exposures in one U.S. state

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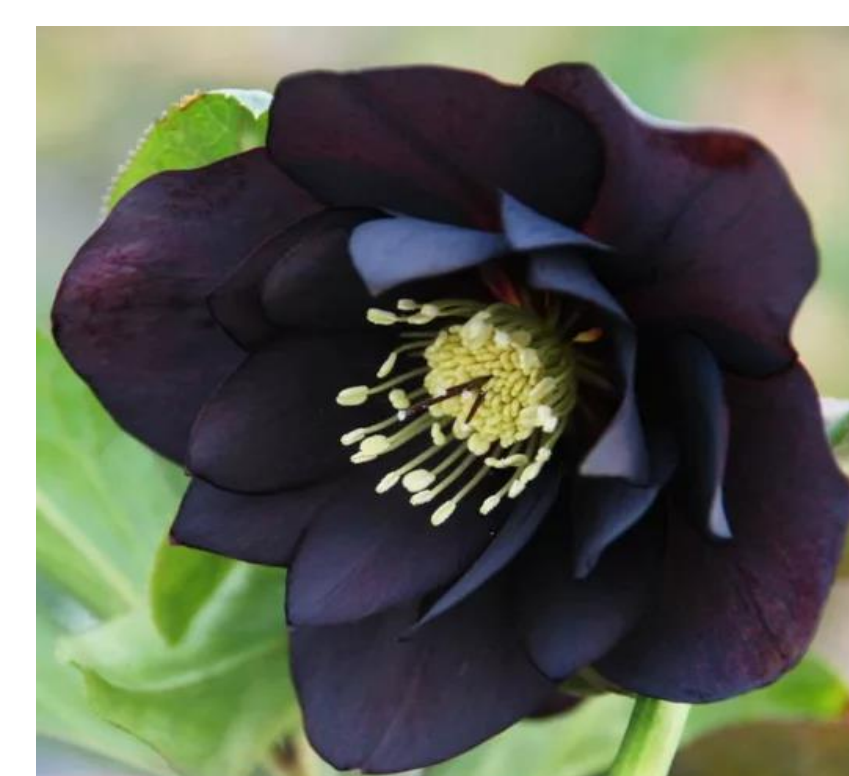
Background

- ❖ Helleborus species, native to regions of Europe and Asia, are herbaceous perennials widely cultivated as ornamental plants in the United States with 20 recognized species.
- ❖ One theory proposes that the genus name is derived from the Greek hellein ("to injure") and bora ("food"), a reference to the plant's inherent toxicity.
- ❖ Helleborus are sought after plants for gardeners who recognize its resistance to pets and ability to bloom in the shade and during winter months.
- ❖ Helleborus contains several toxic constituents, including protoanemonin, saponins, and the cardioactive glycosides hellebrin and helleborin.
- ❖ These compounds may cause gastrointestinal distress, mucosal irritation, and cardiotoxicity.
- ❖ All plant parts are considered toxic, with the rhizomes and roots bearing the highest concentrations.
- ❖ Despite its prevalence in horticulture, clinical data on toxicity remains scarce.
- ❖ The Veratrum species ("false hellebore") are chemically and taxonomically distinct and should not be conflated.



Methods

- ❖ This was a retrospective review of single substance human exposure cases involving the Helleborus plant species reported to two regional poison control centers (PCC) serving a midwestern U.S. state from January 2015 to April 2025.
- ❖ Inclusion criteria included single-substance exposures coded with one of thirteen Micromedex product codes for hellebore plant species.
- ❖ The case narratives were reviewed to confirm coding accuracy and conformance with the National Poison Data System coding definitions.
- ❖ Some of the species involved in the cases reviewed are shown below:



Helleborus 'midnight ruffles'



Helleborus foetidus (stinking Hellebore).



Epipactis helleborine

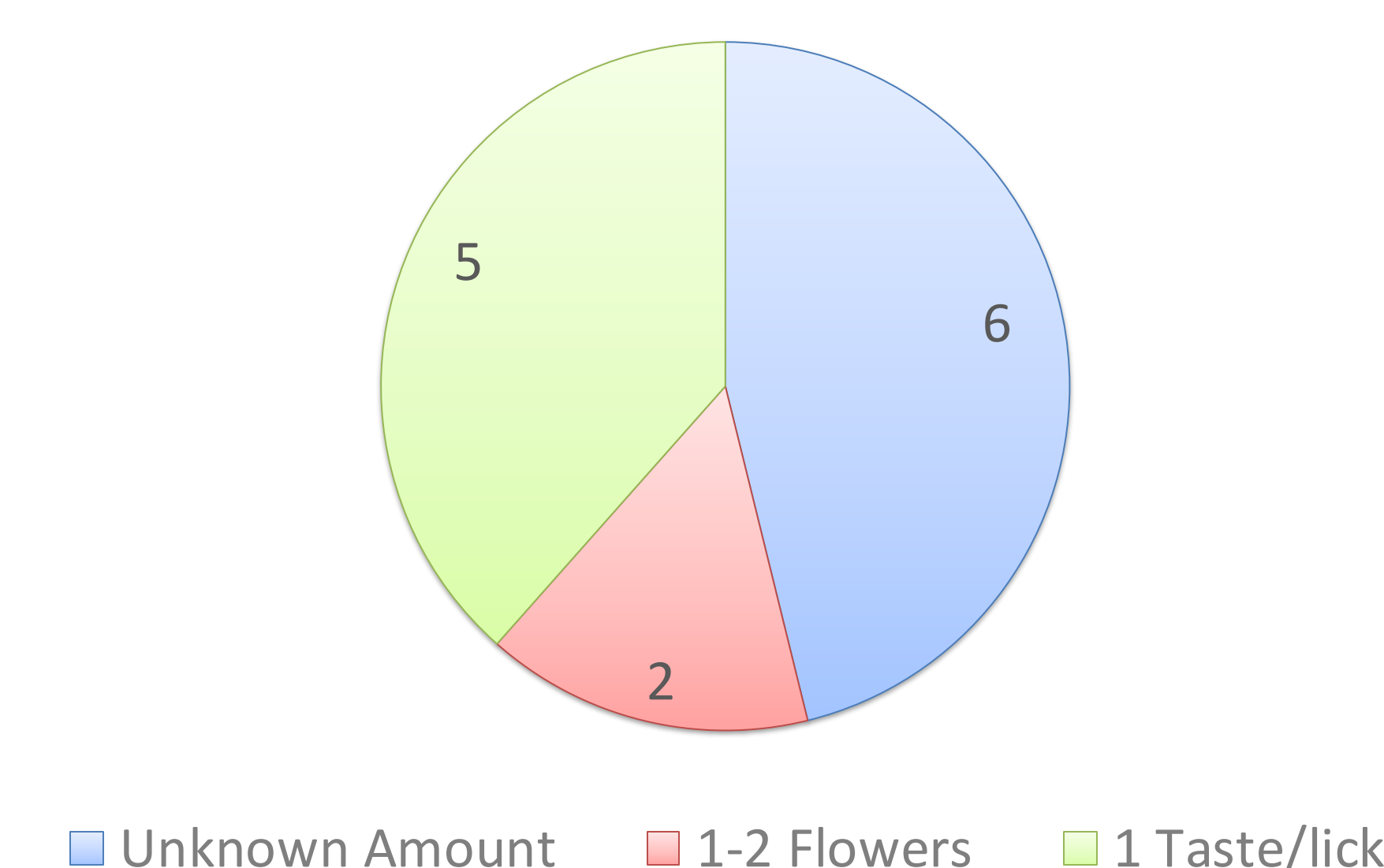


Christmas rose, Helleborus niger

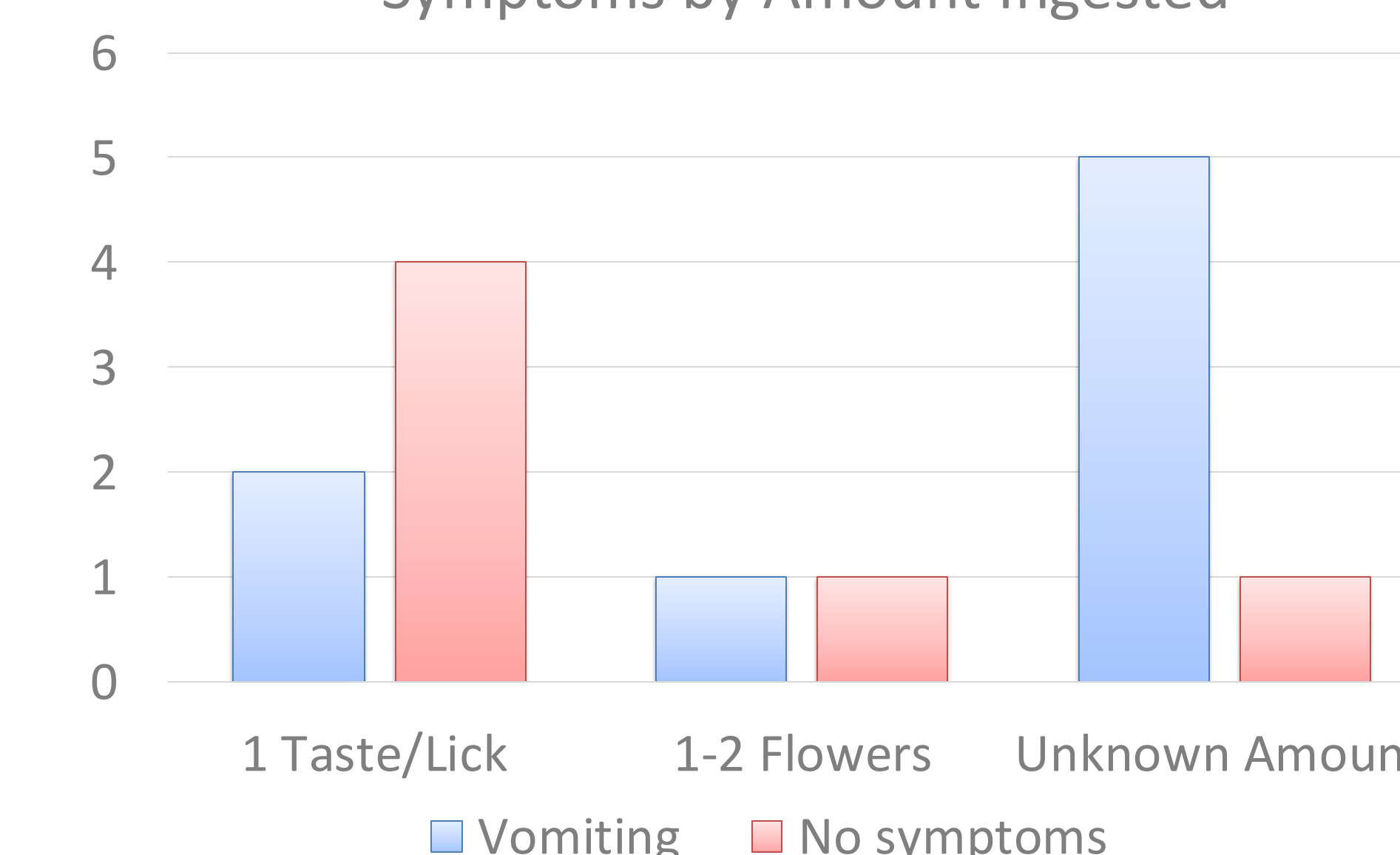
Results

- ❖ A total of fifteen single-substance exposure cases met the inclusion criteria.
- ❖ The ages ranged from 11 months to 45 years, and all exposures were assessed as unintentional.
- ❖ Pediatric patients (≤ 18 years) represented 80% (n=12) of cases.
- ❖ The predominant route of exposure was ingestion (n=13), followed by dermal contact (n=2).
- ❖ The plant parts implicated included stems (n=6), flowers (n=6), and leaves (n=2); three cases did not specify the plant part involved.
- ❖ Symptoms were reported in half (n=8) of the exposure cases.
- ❖ All symptomatic patients reported gastrointestinal symptoms (nausea, vomiting, or diarrhea).
- ❖ All patients were managed at the site of exposure and did not require evaluation at a healthcare facility.
- ❖ Treatment interventions in the home setting included no therapy in 47% (n=7) of cases and dilution or irrigation in 53% (n=8).

Ingestion Amounts



Symptoms by Amount Ingested



Conclusions

- ❖ This case series highlights that Helleborus species, while often considered ornamental, have toxicity potential.
- ❖ Further research is warranted to better define the toxic dose thresholds and guide evidence-based management of Helleborus exposures.

References

- <https://bloomcollege.com.au/blog/the-story-of-hellebores-from-history-to-healing/>
- https://www.ahpa.org/herbs_in_history_hellebore