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Title: Assessing the condition of historic botany specimens in the Royal BC Museum herbarium

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Abstract:

The historic value of natural history specimens increases over time and may eventually surpass their scientific value. They not only document the occurrence of plants and animals on the historic landscape, but also the lives of the collectors and the development of their ideas and contributions to science. As they age, these specimens also become fragile and may require special attention to ensure their long-term stability and relevance. To investigate the physical condition of historic botanical specimens collected during or before 1920, we assessed over 9,500 eudicot specimens at the Royal British Columbia Museum Herbarium (V). For each specimen, we indicated if damage was evident and categorized the damage as unstable, broken, or soiled. In the case of unstable or broken specimens, we made repairs, and in the case of soiled specimens, we placed each specimen in a separate folder to isolate it from the rest of the collection. Damage was noted in 299 (3.1%) of the specimens examined with 165 (1.7%) categorized as unstable, 69 (0.7%) categorized as broken, and 64 (0.7%) categorized as soiled. An assessment of younger specimens will reveal if these damage rates hold across the entire collection, or are specific to historic collections. We reviewed the distribution of broken specimens across taxonomic families to determine if breakage occurs at higher rates in some families because of innate differences in brittleness. Of the 84 Eudicot families examined, breakage occurred in 24 (28%) families. The highest number of broken specimens was nine, noted in Rosaceae. However, this represents only one percent of the historic Rosaceae specimens examined suggesting that Rosaceae is not especially brittle. In comparison, eight broken specimens were noted in both Aceraceae and in Anacardiaceae which represents 11% and 33% breakage, respectively. A breakage assessment of all specimens in these two families is warranted as preventative action and to test the suggestion that Aceraceae and Anacardiaceae are more brittle than other Eudicot families.

