Conference Abstract

Using Data From *Index Herbariorum* to Assess Threats to the World's Herbaria

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Abstract

During the past few years, natural disasters, political or social unrest and institutional actions have imperiled herbaria. The question has been raised multiple times whether or not the data gathered about herbaria in *Index Herbariorum* could be used to predict which herbaria are at the greatest risk. Armed with such knowledge curators and the greater collections community might be in a better position to safeguard those herbaria. To explore the feasibility of using *Index Herbariorum* data in this way, we have identified a set of specific threats and then scored herbaria according to their susceptibility to those threats. These threats fall into two categories: Physical and Administrative. Physical threats are those that could lead to loss of collections through outright destruction due to catastrophic events (e.g., earthquake, flood) or loss of the protective controls (e.g., air conditioning, building security) that ensure a safe collections environment. Determination of these threats is based on location.

Administrative threats involve decisions made by the governing body to remove staff support, appropriate space or climate control measures for the collection. Physical threats were determined using GIS to plot the location of all herbaria, and then overlaying these with map layers indicating current earthquakes, floods, cyclones and landslides and potential future threats (sea level rise and civil unrest). We deduced Administrative threats from *Index Herbariorum* data elements. These include the status of the herbarium (active or inactive), whether or not the *Index Herbariorum* entry for an institution has been updated

in the past 10 years, whether or not the herbarium has a designated curator, the ratio of staff to specimens, and whether or not the collection has been digitized. Each threat was assessed as absent or present, and assigned a value of 0 or 1 accordingly. Using this method, less than 4% face no identified threats; 65% face one to three threats and 35% face five or more threats. The criteria used in this study cannot alone predict the future security of a collection, or the lack thereof. The reasons for the loss of a collection are usually more complicated than *Index Herbariorum* data can convey. However, the large proportion of herbaria that face multiple threats suggests that all herbaria should be aware of the risk factors for their collection, perhaps conducting a self-evaluation using the criteria presented here or others, and where possible should incorporate responses to those threats into their strategic and disaster preparedness plans.

Keywords

Herbaria, threats, *Index Herbariorum*

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