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Traditional Methods and Gamma Ionization Technique for Disinfection of Cultural Heritage Objects: Acceptance by the Conservators Community

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Artifacts are preserved over time by cultural heritage institutions to prevent their deterioration. As organic materials, such as wood, fabrics, plant fibers, and feathers, are vulnerable to damage, chemical treatments were historically used as an effective method of preserving the physical integrity of objects. Pesticide use in cultural institutions began to increase at the end of the 19th century. To ensure the preservation of their collections, museums and libraries followed traditional recipes in addition to using chemicals that were commercially available with a variety of formulations. The use of routine and successive treatments may have affected objects with multiple contaminations from different chemical substances. Many entomologists, taxidermists, collectors, curators, and professionals from institutions shared these treatments, which facilitated an exchange of information regarding biological threats. A knowledge exchange network involving many countries generated a similar timeline for the application of chemical substances. An international survey was developed to collect information on the practices of toxic and non-toxic treatments used in different types of collections. To leave the traditional Anglo-Saxon axis, the questions was prepared in English, Spanish and Portuguese in order to make it accessible to a wider audience not always actively engaged in international surveys in conservation. This study presents the results of the questionnaire designed to identify traditional methods of disinfecting objects, as well as to understand the level of acceptance of more sustainable methods, such as gamma ionization applied to the preservation of cultural heritage.