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PAPERS

VARIABILITY IN MEASUREMENTS RESULTING MICROSCOPIC ANALYSES OF COLLAGEN SHRINKAGE-TEMPERATURE

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Abstract - A statistical study was conducted on the microscopic method of analyzing collagen shrinkage-temperature (T_c) to determine its value for studies relating to the care biological research collections. Initial T_i , T_f at time of birefringence change, final T_f , and T_c range were variables found to be most useful for analysis. Variation of T_c measurements attributed to sampling location, sample preparation, and preservation treatments of samples were examined. This study shows that these factors do affect T_c measurements, demonstrating the need for standard procedures and the usefulness of adequate sampling. The amount of variability may provide a mechanism of interpreting the thoroughness of preservation treatments of collagen.

USING PARIS DOCUMENTATION AS A RESEARCH TOOL IN PALYNOLOGY

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Abstract - Through cooperation with the Canadian Heritage Information Network, Communications Canada, a database with supporting entry and retrieval programs was developed for the Canadian Museum of Nature to accommodate our palynological research requirements. The PARIS program allows specific questions to be answered through a series of simple searches, thereby serving as an identification tool. Appropriate standards for accuracy, cross-referenced fields, and the ability to search for "unknown" pollen or spore taxa via morphological characters are all accomplished using PARIS.

SUMMARY OF A STUDY TO EVALUATE COLLECTION MANAGER-TYPE POSITIONS

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Abstract - An exploratory project was initiated to develop a profile of professionals who directly care for natural science collections as well as a profile of the positions held by these individuals. The primary emphasis was on those positions involving collection management regardless of the formal institutional title of the position. Surveys were sent to 130 individuals working with natural science collections in the United States and Canada; 82.3% of the individuals responded. Analysis of the responses provided

brief descriptions of the institutions represented; the collections with which the individuals were affiliated; the individual's job, background and training, professional development opportunities; and a more detailed description of the tasks involved with the individual's job. Seventy-two percent reported that collection manager best described their job function, but only 40% formally held a title of "collection manager." The majority reported a broad range of responsibilities under the following categories: specimen preparation; management of specimens, data, and records; personnel management; service; and general collection support and administration. About one-third also reported tasks in the areas of research and publications, teaching, and grant-writing.

MUSEUM COLLECTIONS: FUNDAMENTAL VALUES MODERN PROBLEMS

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Abstract - Collections support scientific enquiries about the natural world and enhance education. These fundamental values notwithstanding, resources for collections remain limited despite recent increases in material stemming from biodiversity itself, from the development of mass collecting techniques, and from the need to house endangered collections, voucher specimens, collections preserving genetic diversity, and regional collections. The pressure on resources can best be met by obtaining more resources. Knowing biodiversity (and thus understanding the world we inhabit and living there sensibly) requires the steady accumulation of information supported by collections, which in turn require essential infrastructure resources. The support to other branches of science provided by collections (and by the systematics work they facilitate) must be explained to those who use this support but do not appreciate its true cost. Initial project costs should include the means to identify material and preserve voucher specimens. In addition, existing resources can be used more efficiently by setting priorities to optimize scientific quality and resource use. Increasing operational efficiency (collections management and improved preservation) and division of labour (regional participation, networks, and data standards) also converse resources. Modern problems can be solved by emphasizing the fundamental scientific value of collections in building knowledge for current and future use.

Reviews

- Index herbariorum, part 1. The herbaria of the world, 8th ed., by P. Holmgren, N. H. Holmgren, and L. C. Barnett (eds.).
- The herbarium handbook, by L. Forman and D. Bridson (eds)
- A rhino in High Street, Ipswich Museum-The Early years, by R. A. D. Markham