

Museum as natural pest habitat – classification of common species and means of their detection

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Abstract

As far as museums store in their exhibitions or depositories objects containing organic matter in a form digestible for pests, there is a necessity to protect these objects. The most effective protection depends on precise knowledge of the material content of objects in collections, on knowledge of species of pests attracted to the specific a component that is part of the food chain and last but not least on techniques for continuous detection of the pests' presence in collection capable to trigger immediate action. The first part of this paper is devoted to a classification of pests as well as common techniques for their eradication. Three basic groups of biological threat can be divided as microorganisms, insect and vertebrata each group is associated with a distinct technique for detection. Typical insect species in museums' collections are overview in detail. The second part of the paper describes insect detection methods developed. The detectors are capable of permanent screening of museum's environment based on optical analysis of the view field. If the presence of pests is detected, the devices can send an alert message to museum worker. The biodetectors serve as components of comprehensive system for monitoring of museum's environment which is briefly outlined in discussion. It can be concluded that the role of biodetectors in collections is crucial because it provides early warning and, at the same time it can provide support for museum personnel when decision to avoid unnecessary preventive use of disinfection is to be taken.

Keywords: museum environment, pests in collections, pests detection, indoor monitoring