

Pest control is a primordial factor when preserving library and archive collection. The problems come from insects and rodents that can cause destruction of collections when feeding on paper, adhesives and binding material.

**I. Identification**

The identification of the type of pests that infest a certain collection can be difficult, since there are similarities between the damage and traces caused by different species. It can be simpler through the direct observation of the insect, as different species possess distinct physical characteristics.

**II. Proliferation conditions**









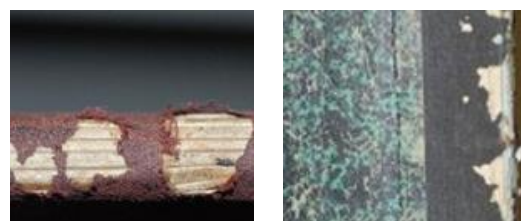
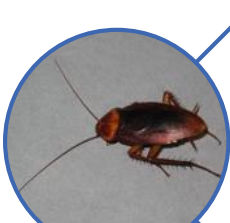


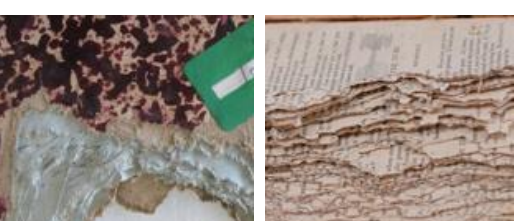
Environmental conditions are essential to the development of a specie; such conditions are: specific values of temperatures, relative humidity and light.

**III. Traces and damage**

The action of pests results in visible damages inside and outside the documents and also in the surrounding areas which becomes a source of food supply and shelter. The damage varies according to the pest, and can be seen as holes and stains, which can go completely unnoticed until an extensive and irreversible damage occurs.

**1. Pest Control**



BIBLIOPHASE / PEST	IDEAL CONDITIONS OF PROLIFERATION	TRACES AND DAMAGE
 Woodworm beetle	Relative humidity: 45% to 60% Temperature: 22 °C to 23 °C Ideal conditions: tolerate cold environments but not very dry	
 Termite	Relative humidity: equal or inferior to 65% Temperature: 20 °C to 30 °C Ideal conditions: dark places, warm and with a low moisture content	
 Silverfish	Relative humidity: 75% to 97% Temperature: 22 °C to 27 °C Ideal conditions: prefers dark places (nocturnal insects)	
 Booklice	Relative humidity: inferior to 65% Temperature: 25 °C to 30 °C Ideal conditions: prefers dark places, humid and moldy	Invisible to the naked eye
 Moth	Relative humidity: 75% Temperature: 25 °C Ideal conditions: prefers dark, warm and humid places	
 Cockroach	Relative humidity: inferior to 65% Temperature: 20 °C to 30 °C Ideal conditions: near heat sources that provide shelter (nocturnal insects)	
 Rodent	Relative humidity: 45% to 55% Temperature: 20 °C to 26 °C Ideal conditions: shelters with food and water; they can adapt to almost any weather conditions	

**2. Identification**



Pest control is a complex area. For more information about this subject please see the preservation guide nº 7 "Pest Control – Monitoring", the web site "IMC Pest – Archives and Libraries" and the poster "Book insects - what to do" at: <http://abm.madeira.gov.pt>

These are the advices from the DRABM (Archive and Library of Madeira) Preservation, Conservation and Restoration team, which are merely indicative to minimize damage.  
<http://abm.madeira.gov.pt>

**3. Understanding reality**

