

The greatest menace to Komonjo

Keywords: Shimi (silverfish,) Kunjō (fumigation technique.)

Conservation of materials, IPM



Haisai! Kijimun yaibīn. Congratulations for soon-to-be-graduates! In this month, I'm going to talk about the greatest menace to *Komonjo*, that is to say, insects and fungus. Here we go!

1. The impending danger to *Komonjo*: Is the enemy inside the library!?

Komonjo are handed down from person to person, from the past to the present. It is necessary to take measures against fungus and insects to properly conserve them and control the storage environment. The mold gives damages to books by absorbing nutrients from materials like paper, wood, or starch, and at the same time, it produces a coloring matter, protein, and amino acid which contaminate materials. As one of the damages which fungus give, there is a phenomenon called Foxing, which causes a brown stain on a paper. This brown stain is produced in a chemical reaction with a fungus and an amino acid (Image 1, Foxing.)

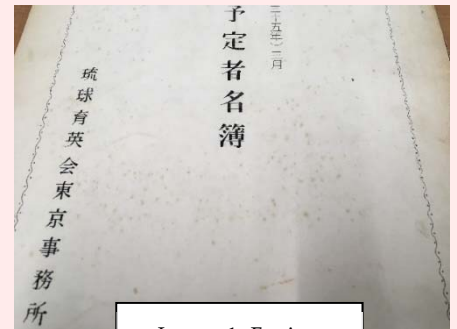


Image 1, Foxing

Insects (cockroach, termite, silverfish, death-watch beetle, etc.) give direct physical damage to materials with eating papers, or they contaminate books with their excrements. Silverfish eat the surface of papers and larva of death-watch beetle eat books with making tunnel-like holes. Sometimes their excrements stick papers together, and it makes the book not to be opened (Image 2, A book deteriorated by a death-watch beetle.)

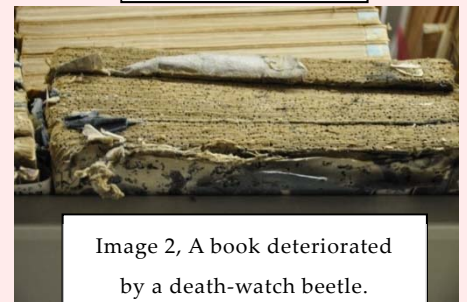


Image 2, A book deteriorated by a death-watch beetle.

2. To protect materials from fungus and insects: Interdict the enemies at the border!

There is a method called *Kunjō* (fumigation technique) as one of conservation technique to avoid insect damage on materials. In past days, many of facilities like Museums and Libraries adopted a method to exterminate fungus and insects all together at one time with using powerful medicine. But, the environmental pollution and the carcinogenicity induced by extensive use of chemical drugs were considered problematic; and thus, "IPM (Integrated Pest Management)" is recommended today. IPM is an attitude to adopt various techniques to control the storage environment not to rely on nothing but chemical drugs. Among pest management techniques not depending on chemical drugs, there are a low-temperature control (in a freezer) and a low oxygen treatment (by CO₂), in the University of the Ryukyus Library, we kill insects by CO₂ when we accept rare documents anew. Besides, it is important to keep the environment clean by getting rid of dust periodically, managing to control temperature and humidity, and ventilating rooms so that the fungus and the insects have difficulty to survive there. The digitalization of valuable materials is not only for making the materials accessible to the public but for protecting them from direct contact which may give damages to them.

That's all for this FY2017. Thank you for having taken the time to read this column in every month, and I hope you continue to enjoy reading for next FY2018!

References; Government of Canada/Gouvernement du Canada. Preservation and conservation
<https://www.canada.ca/en/services/culture/history-heritage/museology-conservation/preservation-conservation.html>

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