

Cultural Stewardship Program

Conservator Hack:

You Can't Know Too Much About Insects – Really!

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Insects in museums are a warning sign, like a canary in a coal mine, and their presence can mean many things. They can indicate damp interior conditions that lead to mould; holes and access points in a building envelope; the presence of mould; a bird or rodent infestation; structural dampness; poor housekeeping; and poor storage conditions.

Insects are always present, whether or not we see them. Googling “insects that live on us” on YouTube will keep you engrossed (or squirming) for hours. However, I am more concerned with the insects that live in our museums.

Most people have seen silverfish and sowbugs near baseboards and in washrooms as they are attracted to moisture. Sowbugs (and pillbugs) are descended from crustacean ancestors and have gills at the base of their legs that must stay wet in order for them to breathe. Sowbugs and pillbugs will not harm collections but they provide food for other insects that do. Silverfish often congregate around a leaking pipe or condensation on a pipe. They like to eat starch in paper and bookcloth and can cause quite a bit of damage. Booklice are tiny creatures that require magnification to identify. They are not lice in the human sense, but little moisture-loving insects that eat microscopic moulds. They will not harm your collections but like silverfish and sowbugs, they indicate damp conditions that can lead to mould.

Some types of beetles like to bore holes into wood and lay their eggs. When the eggs hatch, the larvae tunnel around for a period of time and then emerge as adults and fly away to repeat the process either elsewhere or on the same site. Damage can be extensive and hidden inside a beam or post. Carpenter ants also like to live inside wooden structures and their constant tunnelling can weaken wood. Both wood boring beetles and carpenter ants leave piles of frass (bug poop). The texture and size can help identify them.

The larvae of dermestid beetles – carpet beetles, larder beetles, hide beetles, furniture beetles - are small, silent and deadly. They eat anything proteinaceous that they can get their little mandibles on, be it the chicken bones in a staff kitchen garbage can, the contents of discarded dirty Kleenex, or the artifacts in your collection. A collection with organic artifacts is an attractive food source. Larder beetle larvae will eat fur off at the base, leaving an unattached layer of fur that falls off when disturbed. If you put down sticky pest traps, they will often come onto the trap to eat any other insects – or rodents – that are stuck on it. The smallest larvae can actually walk across the sticky surface without becoming stuck. I have examined sticky traps with seemingly benign insects on them only to discover under magnification that dermestid larvae are eating the carcasses from the inside out.

The larvae of certain types of moths pose a hazard to artifacts, eating wool, feathers and felt used in clothing and furniture as well as fur, dead rodents and dead birds. One species of moth inhabits bird nests so if you are trying to find the source of an infestation, check for birds roosting on your building!

If you would like to know just a little bit more about the hazards that insects pose to your collection, I recommend this poster put together by MuseumPests.net: [Dirty Dozen](#). You can also download a free publication on IPM Fundamentals from their website, at <https://forms.illinois.edu/sec/6828287>.

If you are itching to learn more (little bit of bug humour!), there are a number of online courses and many of them are free of charge such as the Foundation for Advancement in Conservation (FAIC) "Connecting to Collections Care" website introductory IPM webinar: <https://www.connectingtocollections.org/ipmpart1/>. If you'd like a virtual holiday while learning, there is a free e-learning tool created by the Museum of London at: [Introduction to Museum Pests - Welcome to the e-learning tool \(museumoflondon.org.uk\)](#).

If you have any questions about insect identification or integrated pest management for your museum, or think you might have a pest problem, please contact me through the Cultural Stewardship Program.