

Archival Products

NEWS

Silverfish, Their Activities and How To Stop Them!

by Margit J. Smith

ANYONE WHO HAS WORKED IN a library, anyone who has books at home, anyone who collects papers, be they newspapers, journals, decorative papers, printmaking papers, any type of printed material—will most likely have encountered the ubiquitous silverfish, sometimes called fire brat or bristle tail. (ill. 1)

Their general shape is usually described as carrot-like, they are covered with scales giving them a metallic sheen, often silvery (hence the name); their order comprises the most primitive of all insects. They have long antennae, approximately 1/3 the length of their body which is between 10mm and 13mm, and long abdominal appendages. In Latin their name is *Lepisma saccharina*, in French *Lepisme*, *Lepisme saccharin*, or *Petit poisson d'argent*, in German *Silberfischchen*, in Spanish *Pececillo plateado*. Their distribution is almost worldwide. They like to hide in dark, moist or humid, undisturbed areas and move extremely fast when exposed to light.



Silverfish have compound eyes, with 12 facets each. Their mouths are simple and similar to those of cockroaches, with two pairs of jaw-like mouthparts, especially adept at grazing over the surface of material. Paper, particularly glossy paper, contains the food they like best: carbohydrates from the starch and cellulose of the paper, and protein-containing substances used in book-binding, such as sizing, glue, paste and gum. In addition they eat rayon, cellophane and the microscopic mold growing on plaster walls and drywall. Checking cardboard boxes that come into the library for infestations of silverfish is most advisable, since cardboard manufacturing plants are infested with silverfish, and they like to lay their eggs in the corrugated walls of boxes.

Damage inflicted by silverfish ranges from slight abrasion produced by grazing

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For over 25 years I have used Dekko Silverfish Paks, and can say that they solved the silverfish problem in my home and workshop completely. I placed two to three packs in each drawer of my paper storage cabinet, but also behind books and between items in our print collection.



Silverfish damage

over the top layer of paper in a rasping fashion, to actually eating through the page. (ill. 2) In especially advanced stages of destruction, the page or book cover begins to resemble a piece of lace and can crumble when picked up. Recently I found a paper-back volume on which the silverfish damage was confined totally to the white ink of the letters on the front cover, following exactly the outline of the letters.

Two paragraphs addressing the difficulty of managing the silverfish problem and worth quoting in full are the following from T. A. Parker's "Integrated pest management for libraries" in Ross Harvey's *Preservation in Libraries: A Reader*:

In temperate climates, silverfish tend to migrate vertically depending on the season of the year. In the hot months of summer, silverfish will migrate down into the cooler, more moist portions of the building, and in the fall and winter they will tend to migrate to attics and higher levels. Drying out a building with

heat in the winter time will help to reduce silverfish populations. The heat also eliminates the microscopic mold that grows on plaster walls and drywall providing a food source for silverfish. In cool, moist basements, and commonly in poured-concrete buildings, silverfish are a year-round problem.

It is impossible to eliminate bringing silverfish into a library. Silverfish are a very common problem in cardboard box and drywall manufacturing facilities. Silverfish lay eggs in the corrugations of cardboard boxes, one of their favorite areas for egg deposition. With every cardboard box coming into a library, a new load of silverfish and their eggs is bound to arrive. Upon hatching, silverfish go through many molts throughout their lifetime and have a long life span. (p. 172)

In the late 1970s when I first established my bookbinding studio and began to collect handmade papers from sources worldwide, it did not take long for silverfish to appear. At that time I found a product called DekkoPak, stating the contents as 20% boric acid, and 80% inert ingredients. They were roughly 2 1/2 by 3" and looked like a single layer of corrugated paper sandwiched between two layers of plain paper, with all four ends open. Taking this little package apart, I found that the paper in the center has small amounts of a hard, white substance applied to it, which sticks the center layer to the upper layer. The lower layer is attached simply with several dots of glue along the long edges. I have not had this checked, however I believe the boric acid to be contained in this white substance. I am quoting from the Use Restrictions on the packaging: "Apply only in areas inaccessible to children and pets. Avoid contamination of feed and foodstuffs. ... Place in closets,

drawers, bookcases, in basement and dark hidden places; also in areas where silverfish inhabit, under house and in attic if possible. When Dekko Silverfish Paks are used as the only treatment, control may not be obtained from three days to four weeks, depending upon conditions. Repeat treatment as necessary to affect and maintain control. Replace every three to four months from date of purchase.” They recommend putting two to three packs in each infested area, and add the usual caution of washing hands after handling them. What is not specified is the size of the infested area for which two to three packs are sufficient.

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At Copley Library at the University of San Diego, I am responsible for the preservation of our collection. When I found a small infestation of silverfish in the rare books room I began to look for Dekko Silverfish Paks, but could not find the manufacturer, or a distributor. I finally wrote to ConsDistlist for advice, but the only responses were requests to let the readers know if I could locate a source for this product.

A long time after my letter to the discussion list I received a

note from a member who recalled my search, and informed me that the Vermont Country Store was selling Dekko Silverfish Paks! I immediately ordered a large supply and began to plan the best way of using them.

Our special collections room has built-in wooden book cabinets with glass doors. Some years ago when a new air conditioning unit was installed in this area, we moved the whole collection into a storage room for almost a year, and at that time we cleaned the shelves carefully. In the intervening years the silverfish almost disappeared, but within the past two years they reappeared.

We began by placing the Dekko Silverfish Paks on the shelves behind the books, if the book did not reach all the way to the back. When a book was moved, however, taken out and put back in, the packs were shifted around and I became concerned about the printed materials actually making contact with the packages. To avoid this I decided it was better to tape them to the upright ends of each three-foot shelf and keep the books physically away from the packs. With the help of several student workers, this task was accomplished within a few days. Directions on the Dekko Silverfish Pak carton state that for maximum efficiency, one should replace the packs every three to four months. It will soon be time to remove the old ones and purchase new ones to take their place. In addition to placing new packs on the

Silverfish Packs



The Vermont Country Store 802-362-8364
Silverfish Packs – SKU 29893
www.shop-vermontcountrystore.com/products

Silverfish eat paper and glue with great gusto! Dekko Silverfish Paks attacks them by infusing the boric acid, paper pack and glue with an attractant that is irresistible to the critters and kills them quickly once consumed. Unlike powders, Dekko Silverfish Paks are clean, won't leave residue on your hands, or in locations where they are placed. In the case of severe infestation, complete control may take from 3 days to 4 weeks depending upon conditions.

How To Use Tips

Don't open or crush individual packages. Silverfish show up most often in dark, dry areas. Place two or three packs in each infested area or location where silverfish might show up. In addition to drawers, closets, bookcases, basements and garages, use these packs in the attic and under the house. They will solve your silverfish problems quickly. If you don't have the critters—and most folks do but don't know it until the numbers get really large—Dekko Silverfish Paks will insure you don't get the problem. An ounce or two of prevention is worth many pounds of aggravation...

Product Specifications

Active Ingredient: Boric Acid, 20%
Inert Ingredient: 20%

Archival Products Updates

Since the presentation of the Archival Products Spiral Book Binder, we have had numerous requests for additional sizes. The new sizes offered are:

Spiral Book Binder

CATALOG NUMBER	SPINE WIDTH	BINDER WIDTH	BINDER HEIGHT	ACCOMODATES SPIRAL BOOK SIZES UP TO WIDTH X HEIGHT	STRAP WIDTH	PRICE
SBB-4	A-3/4"	9 1/2"	12 1/2"	9" x 12"	7/16"	\$6.65
SBB-4	B-1 1/4"	9 1/2"	12 1/2"	9" x 12"	1/2"	\$6.65
SBB-4	C-1 3/4"	9 1/2"	12 1/2"	9" x 12"	3/4"	\$6.65
SBB-5	A 3/4"	10 1/2"	14"	10" x 13 1/2"	7/16"	\$7.94
SBB-5	B-1 1/4"	10 1/2"	14"	10" x 13 1/2"	1/2"	\$7.94
SBB-5	C-1 3/4"	10 1/2"	14"	10" x 13 1/2"	3/4"	\$7.94

Shipping charges are prepaid and added to your invoice or credit card purchase.

If you would like more information about the Spiral Book Binder or would like to try a free sample, please call 800-526-5640 or email your request to info@archival.com.

Music Binder Pockets

Upon popular demand we have added the following Music Binder Pockets:

Cloth Music Binder Pocket

1 pocket 11" vertical or diagonal	\$1.83
2 pockets 11" vertical or diagonal	\$3.65

Tyvek Music Binder Pocket

1 Pocket 11" vertical	\$.90
1 Pocket 11" Tyvek full with diagonal cut	\$.99

shelves, I plan to get some sticky traps to monitor if silverfish are actually still in the area and in general follow Integrated Pest Management methods.

I have also recently read that one can use finely powdered silica gel, or pyrethrum insecticidal dust in spaces between the bottom of shelves and cabinets and the floor, which will kill silverfish by drying them out. This would apparently prevent their getting to the materials on the shelves at all, but one would still have to contend with eggs already present among the books, etc.

Jane Greenfield recommends in *Books, Their Care and Repair*, to "Put a light coating of boric acid on the shelves behind books where children, or cats and dogs ... can't reach it. It is slightly toxic." (p. 21) This method does not seem to be safe since the boric acid dust may be picked up by moving the books and could then be transferred to patron's hands without their being aware of it. In my opinion it is better to use the Dekko Paks because the active ingredient is in a solid form and securely attached to the paper cover.

The best prevention is extreme cleanliness in the stacks: regular housekeeping routines including dusting, vacuuming perimeters of stack areas, repairing leaky pipes and in general keeping out moisture and dust, patching cracks and holes in walls. In addition to what is possible on that front, however, Dekko Silverfish Paks seem to be a good part of the solution. I would be very interested in other means people have used to eradicate silverfish.

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Illustration 1 – Drawing of adult silverfish from *Micrographia* by R. Hooke. London, 1665.

Illustration 2 – Cover of *The Music of George Washington's Time*, by John Tasker Howard. Washington, D.C., 1931, United States George Washington Bicentennial Commission.

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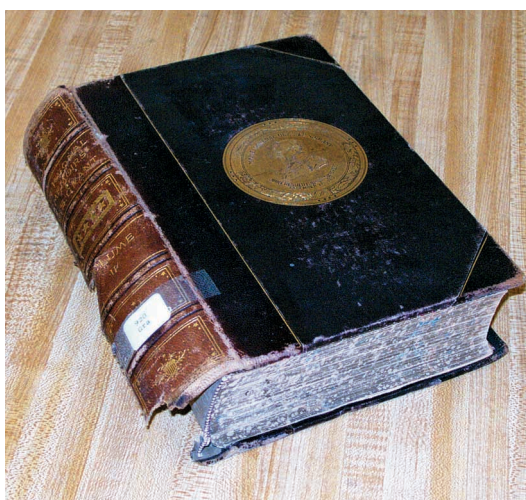
Binding in Tough Times

By Patricia Selinger

MOST LIBRARIES WILL USE A commercial library binder at some point and begin contract services or perhaps forego a contract for an informal arrangement. Library materials need the treatments binderies provide, whether those materials are damaged, worn with time, new paperbacks, loose journals, brittle books, pamphlets, or non-book materials. Binding technology and practices have changed to accommodate library needs. It is not difficult to find a company offering a wide range of services: enclosures, mending, conservation, deacidification, microfilming, and encapsulation among their options in addition to binding. Binding is the first line of defense for long-term retention. The strength and durability of commercial binding is unsurpassed.

At 30% of the total preservation budget, commercial library binding remains the highest preservation expenditure in ARL libraries. Only salaries and wages surpass it and spending for contract conservation, photocopying, microfilming, and other contract services do not come close. This figure is likely to be reflected in non-ARL libraries with and without a defined preservation program. For many institutions, binding IS the preservation program.

The first step in library binding is deciding what to bind. A binding policy or a statement of best practices of what to bind reflects a library's priorities and its mission to preserve its collections. Some libraries choose to bind every new paperback, saving valuable staff time in the decision-making process. Some will bind only in certain subject areas; others will bind only after heavy use or damage dictate treatment.



Personal Memoirs U. S. Grant in need of treatment.

Budget pressures and priorities will dictate the extent to which a library protects its physical assets.

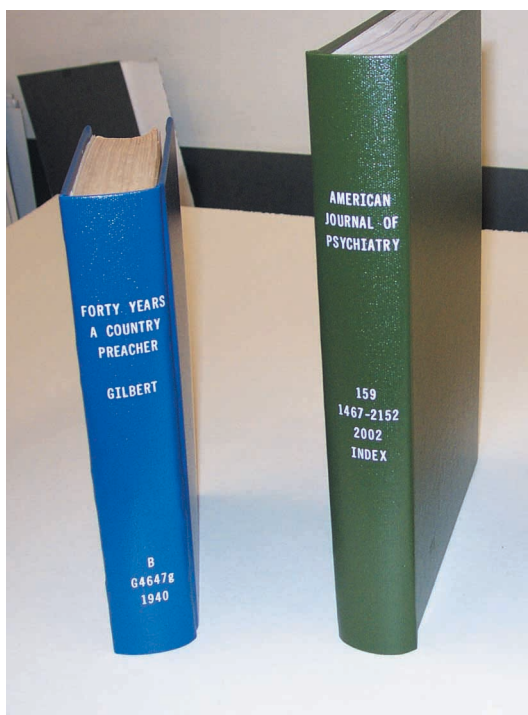
Libraries seek to reduce the cost of binding by canceling print duplicates of electronic journals, by deferring monograph binding, and through other means of selective binding. Budget crises and talk of ceasing library binding have occurred in the past, but the ARL figures remained constant. Part of this may be due to the enduring benefits of library binding.

Planning and education can become priorities when binding budgets are reduced. Even libraries that defer the process are still binding at some level though controlling cost through compromise. Selection often is limited to volumes damaged through heavy use, to those that are too small or too large, and to those having spiral bindings or loose materials that make them unstable and vulnerable to loss on the shelf. Binding management is decision-making for the best protection and preservation of collections.

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LBI

A list of Library Binding Institute (LBI) members as well as a list of LBI publications can be found at The Library Binding Institute website at <http://www.lbibinders.org/>



Library bound books meet or exceed specifications of the American National Standard ANSI/NISO/LBI Z39.78-2000

Education Imperative

During tight budgets, it is essential to educate both library administrators and users, and not hide the problems. Reduced binding budgets do not reduce the needs of the collection. Binding and repair areas may become a repository for damaged books subject selectors do not want users to see. It is important to avoid this “out of sight, out of mind” practice. Documentation of damaged books returned to the stacks emphasizes the ongoing need of library binding. Complaints on the condition of the collection can be a powerful influence.

The advantages of library binding far outweigh the cost savings administrators seek. Costs will be passed on to staff throughout the library. Staff at higher levels will make more frequent selection and treatment decisions. The most time consuming tasks in processing, applying call numbers and security strips, are often

reduced from the binding budget and passed on to the processing staff or students. Often in tight budgets this staff is also reduced, resulting in delays getting materials to users and inconsistent processing. Applying call number labels to flimsy paperbacks causes the covers to open, leaving them vulnerable to damage and loss. When security strips are applied between pages, damage occurs even in normal use. Developing an effective method of identifying damage early, especially before page loss, is difficult in reduced budgets. Loose pages become missing pages, creating additional work for several departments: collection management librarians who are responsible for replacement, interlibrary loan staff who are responsible for borrowing, circulation staff and other service point staff who will spend more time identifying and segregating damage, in addition to addressing complaints.

Library binding is a proactive decision and investment. Anyone who has worked in stacks maintenance will understand the importance of library binding. Paperbacks are unstable on the shelf and require much more time to sort and reshelv as they are unable to stand on their own. Paperbacks of all sizes tend to slide behind bound books, fall between shelves, and become irreparably damaged. Replacement and rebinding incurs additional costs and decision making.

Binding now costs less than doing it later and follows the same principle as capital construction. Normal wear and tear is significantly reduced with today's high quality bindings. Economy binding is available for new and undamaged paperbacks for about \$6 per book. Damage repair and rebinding will double the cost. The cost to replace damaged or destroyed paperbacks is much higher than to bind or reformat at the outset. Paperbacks labeled

and shelved and then later bound represent double staff work. Rebinding damaged books costs more because of repair and special handling costs. Reformatting costs also can be postponed by binding.

The greatest cost is to the library patrons. Users will lose confidence in a library that does not have what they need when they need it. The condition of the library's collection affects student retention and confidence in the school. Libraries are still the primary attraction for many college students and many universities tout the strength of their libraries to recruit students.

Library binding is the best protection for a book. Binding protects books during the circulation process. Binding also protects from water leaks, dirt, overcrowding and other adverse conditions in the stacks. Library bindings rarely have to be replaced after exposure to minor leaks, splashes, stains, and book drops.

As paper ages, the binding protects weak and brittle text blocks. Many nineteenth century books still circulate only because they are bound. Libraries that collect works from third world countries where acidic paper is common face especially devastating results as the collection ages in the paperback format.

Planning Imperative

Planning relies on the analysis of quality, objective data, not anecdotal evidence or emotional response. While computers are extremely helpful in data gathering, it is people who have the capacity to analyze collected information and make it meaningful for the institution. Several types of surveys can be employed to promote preservation initiatives. A cost analysis of the factors affecting reduced binding yields compelling results in any institution where collections are heavily used. Conducting surveys and tracking circulated materials provide valuable data on the current physical condition of collections that is vital for assessing need. Careful planning, simplicity, and focus in the data gathering stage will ensure quality data necessary to evaluate needs and set priorities. Several major libraries have published survey methodology and analysis that can benefit those who have not completed this task.

Libraries benefit from a reliable method of knowing which books are used most frequently and how that use leads to damage. In addition, surveys can establish a baseline of damage from which to evaluate future surveys. An analysis of the effects of environment on collections is another survey strategy. Libraries that do not have

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Library bound books ready for return to their respective libraries for years of circulation.



Special thanks to J.C. Noyes and Dan Swiecanski of Bridgeport National Bindery for the photographs for this article.

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environmental monitoring equipment may be able to borrow them from a local institution. Environmental data must be as accurate and defensible as any other survey data to strengthen the credibility of recommendations. The work of preservation administrators is to demonstrate the manageability of problems revealed through objective studies of the collections and standard operations.

An effective strategy is to define binding and physical maintenance as part of cost of acquisition if it is not already. Considering a book's purchase price and the staff costs for the acquisition, shelving, and circulation process, commercial binding is a small price to pay for a long lasting, strong and durable binding.

Tightened budgets provide the opportunity for growth and innovation. Past budget crises have led to innovation in alternative and hybrid binding styles. Today's crisis can do the same. Education and planning are necessary to develop strategies that will work within the institution. Evaluating priorities and strategies in times of tight budgets help plan for the future and can demonstrate the cost effectiveness of library binding.

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Announcing a Conference Celebrating the Legacy and Future of Book Conservation

The University of Iowa Libraries, the UI Center for the Book and LBS Archival Products will cosponsor a conference celebrating the legacy and future book conservation. The conference will take place in Iowa City, July 22-25, 2005. A retrospective exhibit of the work of the distinguished conservator and bookbinder, Bill Anthony, as well as other exhibits at the UI Libraries, will provide historical perspective. A gathering of accomplished book conservators, conservation educators, researchers and specialists will interact with students, practitioners and the wider audience of those interested in preservation and the persistence of the traditional book. Details will be posted on the University of Iowa Libraries Preservation Department news webpage as planning progresses: <http://www.lib.uiowa.edu/preservation/pages/news/Event2005.htm>



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