

The Structural (Urban) IPM Short Course, 2015

Project Leader(s):

Jody Gangloff-Kaufmann, Matthew Frye

Cooperator(s):

Lynn Braband; Len Douglan (Executive Director NY Pest Management Association); Marc Potzler (Buffalo Exterminating); Gil Bloom(Standard Pest Management).

Abstract:

Correct identification of pests and pest evidence is critical to effective and safe pest management. Accurate identification of an organism, damage to goods or a structure, or debris, including feces, can help a pest management professional (PMP) determine the source of a pest problem, the extent of an infestation, possible entry points, harborage and areas to target for control. This information also helps in determining control tactics to use, giving the PMP an accurate range of choices from traps to chemistry, baits to sprays. Correct identification is key to lowering the use of more hazardous pesticides when safer and more effective alternatives are available. The NYSIPM Program created the Structural IPM (SIPM) Short Course to enhance the identification skills and decision-making expertise among PMPs and others, including Master Gardeners, to improve pest management for all New Yorkers. This short course was designed to use a longer hands-on identification module followed by presentations on monitoring and control. The hands-on portion relies on collections of pinned and preserved specimens, a handbook, a PowerPoint presentation and interaction. The SIPM Short Course was held three times in 2015 for the pest management industry. Short Course content also was used for Master Gardener volunteer training and shorter pest professional lectures. Feedback on the course has been positive and we will continue to offer the course in 2016, with five dates scheduled as of January 2016.

Background and justification:

The core mission of the Community IPM Program is to provide New Yorkers with safe and effective solutions to manage pests where people live, work, learn and play. Because the field of Community IPM is vast, including all aspects of life that are not associated with growing food or horticultural goods, the practices promoted by this program apply to all New Yorkers, and help to reduce health and environmental risks associated with pest management practices. One aspect of improving the safety and efficacy of pest management practices is the education of pest management professionals. The pest management industry has embraced the practice of IPM in many ways, such as incorporating lower risk products, trapping and exclusion. However basic identification of pests, pest evidence and other common arthropods, as well as rodents and their evidence, is key to performing good pest management.

Although the pest management industry in New York values education and offers many opportunities for technicians to be trained, there are no courses that offer hands-on identification of organisms that are found in and around buildings. The ability to inspect and compare similar and commonly confused specimens, side-by-side, is a valuable tool to develop

the skills of the PMP. Images in a book or on the screen, by comparison, are not as effective as real samples. In the past, Cornell faculty members have used hands-on courses to train Master Gardeners and some PMPs. However, that effort ended years ago. The pest management industry in New York has embraced this course and enabled NYSIPM to incorporate this training into their monthly and annual schedule. The NY Department of Environmental Conservation has also supported our educational outreach by approving the SIPM Short Course for pesticide recertification credits.

Objectives:

1. Create a new educational opportunity for the pest management industry and others involved in household/structural arthropod identification and management.
2. Partner with the pest management industry (NYPMA) and the Master Gardener Volunteer Program at Cornell University to offer Structural IPM Short Course, with both pest identification and management modules.
3. Improve the knowledge and skill of partners who offer identification and management advice and services to New Yorkers.

Procedures, methods and materials:

In developing the SIPM Short Course, we first considered what courses and trainings are frequently offered for the pest management industry. Those courses tend to be lecture-based and are offered by industry representatives, scientists and other experienced practitioners. Pest identification training was limited to on-screen visual and verbal descriptions of pests. To create a new learning experience for PMPs we decided to develop teaching collections of pinned and preserved arthropods commonly seen and known as structural and urban pests. We settled on the development of 25 boxed collections that would allow us to teach up to 50 or more participants at a time (2 per collection, ideally). Over the course of 2014 and 2015, we collected and solicited specimens from various sources. Specimens include several species of ants, cockroaches, bees, wasps, spiders, pillbugs, centipedes, millipedes, flies, beetles, true bugs, moths, bed bugs, fleas, mosquitoes, and landscape pests such as cicadas, cicada killer wasps, mud wasps, scarab beetles and other insects commonly found around the home. Many specimens are pinned and other delicate and soft-bodied specimens are mounted in hand sanitizer gel in vials, which provides very good preservation and visibility.

In addition to the collections, we developed a text book to accompany the course. This 50 page manual provides basic anatomy and biology of arthropods (insects, spiders, mites, etc.) and describes species categorized by their ecology (food pest, biting and stinging pest, sewer and drain pest, etc.). The materials and course are organized by the ecology, or pest guild, to mimic what an inspector observing a certain part of a building would expect to find in that area. Five PowerPoint presentations have been developed to accompany the hands-on training. In addition, a pre-test is administered to the participants and after training a post-test is given to measure the potential increase in understanding of pest identification.

Opportunities to offer trainings to the pest management industry are difficult to find because their own industry organization, the New York Pest Management Association, holds monthly,

quarterly and annual workshops. We worked with NYPMA to incorporate our program into their schedule and to allow the industry to handle registration and fees for the first year or two. We also offered the course to Master Gardener volunteer (MGV) organizations. The overall goal is to improve PMP and MGV expertise in identification of arthropods in the human environment for the purpose of managing pests more effectively and with safer tools.

Results and discussion:

Our collection currently includes 20 boxes of pinned specimens and 20 boxes of specimens in vials, with over 1565 specimens representing 100 pest species in 15 arthropod orders. This collection is growing and expanding as more specimens are collected and provided by colleagues. In 2015 we provided the first pilot Structural IPM Short Course for the NYPMA in Buffalo (50 participants, 7.5 hours, 750 contact hours). We trained the whole staff of Standard Pest Management (17 participants, 3 hours, 102 contact hours) and practitioner members of NYPMA in Yonkers (45 participants, 4 hours, 360 contact hours). The content developed in the short course was also used for Master Gardener Volunteer education (60 participants, 4 hours, 240 contact hours), and other pest professionals (two events: 50 participants, 3 hours, 150 contact hours). The Structural IPM Short Course has been requested for four 3-hour master gardener volunteer trainings in 2016 (9/22, 10/5, 10/20 and 11/1), and one NYPMA training (3/31).

The impact of this work has been gauged in the positive feedback from participants, who rate the course highly (Overall course – 3.75 out of possible 5; ID section and collections both 4.375 of 5; and “Did you learn?” 94% responded YES). The pre- and post-tests offered insight into how much was learned. In one case, test scores improved from an average of 60 to 67. In another course scores improved from 67 to 74. However, there were some issues with wording of some test questions resulting in high rates of incorrect scores both in the pre-test and occasionally in the post-test. There are also issues with participants completing these tests and an “ID Challenge” that we have created. All of these activities will be reviewed and revised before offering the course again.

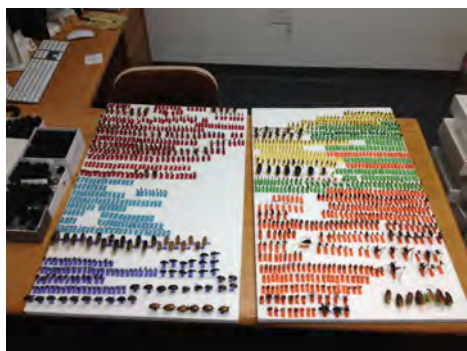


Photo1. Specimens for teaching collections laid out and labeled by pest guild.



Photo 2. A typical teaching collection used for the Structural IPM Short Course.



Photo 3. Teaching the Structural IPM Short Course in Buffalo, NY.