DIVISION OF AGRICULTURE
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Pest Management News

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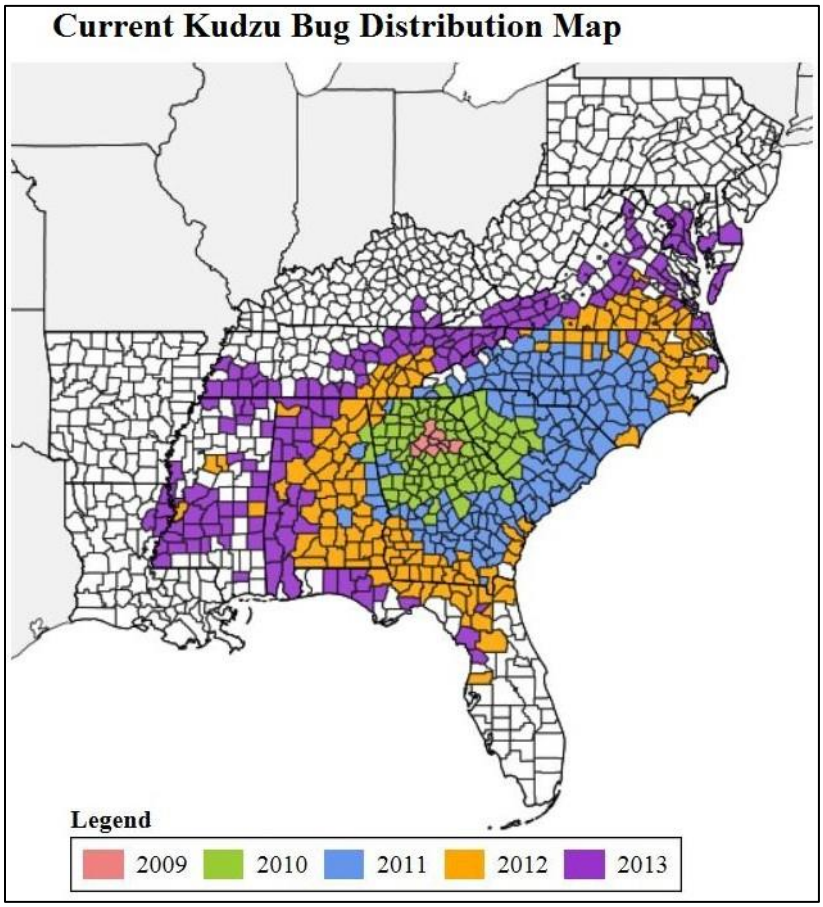
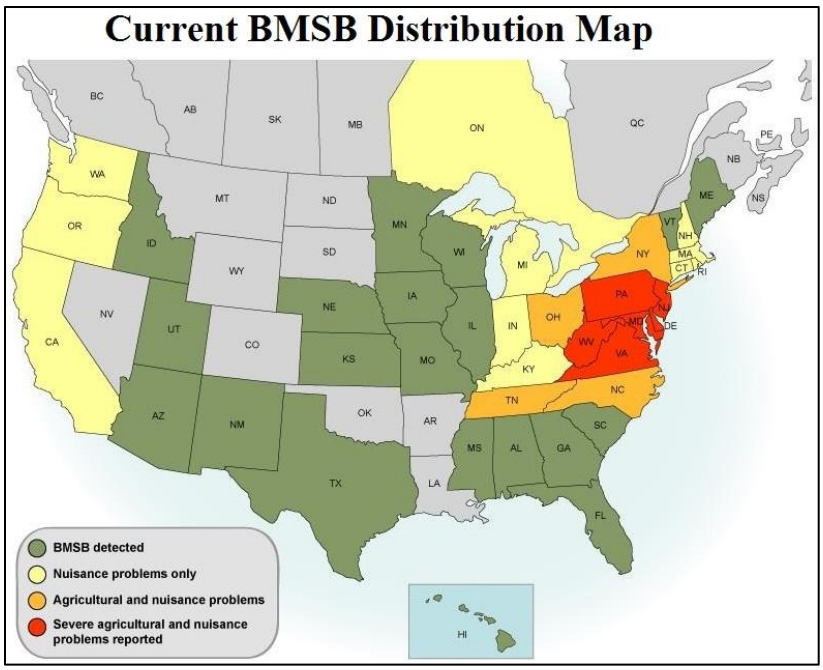
Two Invasive Pests that Pose Threats to Arkansas

John D. Hopkins

As cooler weather approaches, Arkansans need to be aware of two invasive stink bug species that are knocking on our door. While both are yet to be collected and identified from Arkansas, it is only a matter of time (see current distribution maps below). These stink bugs are the kudzu bug, *Megacopta cribraria* (Fabricius), and the brown marmorated stink bug (BMSB), *Halyomorpha halys* (*Stål)*.





Be on the lookout for these two pests and if seen, note the exact location and immediately inform your local University of Arkansas, Division of Agriculture, Cooperative Extension Office or one of the Extension Entomologists listed below:

Gus Lorenz	**501-676-3124**
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From an urban aspect, both the kudzu bug and the brown marmorated stink bug are significant nuisance pests. Each will enter homes in great numbers in the fall to overwinter (think multi-colored Asian lady beetle). The body secretions of both stink bugs have a foul odor and can stain fabrics and wall coverings. While these two invasive stink bug pests can be a tremendous nuisance to homeowners due to their overwintering habits, their greatest threat is to agricultural crops, should they become established. The host range of the kudzu bug includes: soybeans, green beans, lima beans, and other legume crops and plants such as kudzu and wisteria. The BMSG utilizes an even wider host range as can be seen in the table below:

Plants hosting BMSB adults and immature stages in the United States. Plant species in bold represent those with the highest densities of bugs in a given habitat (From www.stopbmsb.org)

Habitat*	Common Name	Habitat*	Common Name
Agric.	**Apricot**	Orn.	Linden Arrowhead
Agric.	Beans	Orn.	Littleleaf Linden
Agric.	Cabbage, Collards	Orn.	Maidenhair Tree (Ginkgo)
Agric.	**Cayenne Pepper**	Orn.	Manchurian Snakebark Maple
Agric.	Ceral Rye	**Orn.**	**Moth Orchid**
Agric.	Common Hops	Orn.	Mountain (Carolina) Silverbell
Agric.	**Corn**	Orn.	Northern Red Oak
Agric.	Edible Fig	Orn.	Norway Maple
Agric.	**Eggplant**	Orn.	Ohio Buckeye
Agric.	Field pumpkin (Summer squash)	Orn.	Oriental Bittersweet
Agric.	Filberts, hazelnut	Orn.	Paper Birch
Agric.	Garden Cucumber	Orn.	Paperbark Maple
Agric.	**Garden Tomato**	Orn.	Peking (Chinese) Lilac Tree
Agric.	Highbush Blueberry	Orn.	Red horse-chestnut
Agric.	Horseradish	Orn.	Red Maple
Agric.	Okra	Orn.	Redosier Dogwood
Agric.	**Peach**	Orn.	Rose of Sharon (Hibiscus)
Agric.	**Soybean**	Orn.	Rugosa Rose
Agric.	**Sunflower**	**Orn.**	**Sargent's Crabapple**
Agric.	Wine Grape	Orn.	Scarlet Oak
Agric.	Wineberry	Orn.	Seven Son Flower
Agric./Orn.	Garden Snapdragon	**Orn.**	**Siberian Crabapple**
Agric./Orn.	**Love-lies-bleeding (Amaranth)**	Orn.	Siberian Pea Shrub
Agric./Orn.	Pecan	Orn.	Silver Maple
Agric./Wild	Raspberry/blackberry	Orn.	Smooth (English) Hawthorn
Orn.	(Large-Leaf) Dogwood	**Orn.**	**Southern magnolia**
Orn.	(Silver) Linden	Orn.	Spirea
Orn.	(Vine) Maple	Orn.	Star Magnolia
Orn.	Allegheny (Apple) Serviceberry	Orn.	Striped Maple
Orn.	American Basswood	**Orn.**	**Sweet Cherry**
Orn.	American Elm	Orn.	Sweetgum

Orn.	American Sycamore	Orn.	Texas Redbud
Orn.	Amur (Japanese Downy) Maple	Orn.	Thornless Common Honeylocust
Orn.	Asiatic (Japanese Cornel) Dogwood	Orn.	Viburnum
Orn.	Bee-bee Tree (Euodia)	Orn.	Viburnum (Blackhaw)
Orn.	Bee-bee Tree (Korean Euodia)	Orn.	Weeping Forsythia
Orn.	Bigleaf Maple	Orn.	White Oak
Orn.	Black Gum (Tupelo)	Orn.	Winterbeam
Orn.	Blue wild indigo	**Orn.**	**Winter-flowering (Higan) Cherry**
Orn.	Boxelder	**Orn./Agric.**	**Cherry**
Orn.	Butterfly Bush	Orn./Agric.	Chinese (Asian) pear
Orn.	Callery (Bradford) pear	**Orn./Agric.**	**Paradise Apple**
Orn.	**Catalpa**	**Orn./Agric.**	**Pear**
Orn.	**Cherry laurel**	Orn./Wild	Chinese Privet
Orn.	**Cherry Plum**	**Orn./Wild**	**Crabapple**
Orn.	Chinese Elm	**Orn./Wild**	**Eastern Redbud**
Orn.	Chinese Fringetree	Orn./Wild	Flowering Dogwood
Orn.	Chinese Quince	Orn./Wild	River Birch
Orn.	Cock's comb	Orn./Wild	Russian Olive
Orn.	Comfrey	Orn./Wild	Sugar Maple
Orn.	Common Button Bush	Orn./Wild	Willow
Orn.	Crape Myrtle	Wild	American Mountain Ash
Orn.	Crimsoneyed Rosemallow	Wild	American Pokeweed
Orn.	Dawn Redwood	Wild	Autumn Olive
Orn.	Dog (Native) Rose	Wild	Black locust
Orn.	Dogwood	Wild	Black walnut
Orn.	Eastern Red Cedar	Wild	Chokeberry
Orn.	English (Smoothleaf) Elm	Wild	Common Buckthorn
Orn.	**English Holly**	Wild	Common Hackberry
Orn.	English Oak	Wild	Eastern Hemlock
Orn.	European Hornbeam	Wild	Green Ash
Orn.	European White Birch	Wild	Holly Leaved Barberry (Oregon Grape)
Orn.	Firethorn	Wild	Honeysuckle
Orn.	Freeman Maple	Wild	Invasive Witch Hazel
Orn.	**Fuji Cherry**	Wild	Leafy Wild Parsley
Orn.	Glossy Abelia	Wild	Lesser Burdock

Orn.	Goldenrain Tree	Wild	Mulitflora Rose
Orn.	Gray Dogwood	Wild	One-seed Hawthorn
Orn.	Green Hawthorn	Wild	Paw Paw
Orn.	Hedge Maple	Wild	Pitseed Goosefoot
Orn.	**Japanese Flowering Cherry**	**Wild**	**Princess Tree (Paulownia)**
Orn.	Japanese Larch	Wild	Purple Loosestrife
Orn.	Japanese Maple	Wild	Riverbank Wild grape
Orn.	Japanese Pagoda Tree	Wild	Sassafras
Orn.	Japanese Persimmon	**Wild**	**Sensitive Plant (Mimosa)**
Orn.	Japanese Snowbell	Wild	Shagbark Hickory
Orn.	Japanese Stewartia	Wild	Tatarian Honeysuckle
Orn.	Katsura Tree	**Wild**	**Tree of heaven**
Orn.	Kentucky (American) Yellowwood	Wild	Tulip Tree
Orn.	Korean hackberry	Wild	White (American) Ash
Orn.	Korean Stewartia	**Wild**	**White Mulberry**
Orn.	Korean Sun Pear	Wild	Witch Hazel
Orn.	Kousa Dogwood	**Wild/Agric.**	**Black Cherry**

* Agric. = agricultural crop; Orn. = ornamental/landscape; Wild = wild, woodland

Much more information on these two invasive pests can be found through the links provided below:

FSA7084 Kudzu Bug - Invasive Pest Coming to Arkansas and the Impact on Soybeans

FSA7080 Brown Marmorated Stink Bug: A Potential Pest of Arkansas Fruits and Vegetables (color)

FSA7077 Brown Marmorated Stink Bug: A Potential Pest of Arkansas Row Crops (color)

Kudzu Bug http://www.kudzubug.org/

Brown Marmorated Stink Bug http://www.stopbmsb.org/

Tracking the Brown Marmorated Stink Bug Video Series

Tracking the Brown Marmorated Stink Bug: Part 1 History and Identification (Duration 4:34)
http://youtu.be/qnMkj0nngSs

Tracking the Brown Marmorated Stink Bug: Part 2 Overwintering and Spread (Duration 5:38)
http://youtu.be/8QV5Gg2Rrcs

Tracking the Brown Marmorated Stink Bug: Part 3 Monitoring and Mapping (Duration 6:32)
http://youtu.be/fScmnMscOTE

Tracking the Brown Marmorated Stink Bug: Part 4 Host Plants and Damage in Orchard Crops (Duration 6:24) http://youtu.be/EArMM-brirw

Tracking the Brown Marmorated Stink Bug: Part 5 Host Plants and Damage in Small Fruit (Duration 3:05) http://youtu.be/9-I7J8DaNTI

Tracking the Brown Marmorated Stink Bug: Part 6 Host Plants and Damage in Vegetables (Duration 4:52) http://youtu.be/ZUqb-C3HYUc

Tracking the Brown Marmorated Stink Bug: Part 7 Host Plants and Damage in Ornamentals (Duration 4:17) http://youtu.be/_Lq1-zDH5Es

Tracking the Brown Marmorated Stink Bug: Part 8 Host Plants and Damage in the Pacific Northwest (Duration 3:35) http://youtu.be/qAAtHYm1ugM

Tracking the Brown Marmorated Stink Bug: Parts 4-8 Host Plants and Damage (Duration 21:06) http://youtu.be/ev5hcaX-HUA

Tracking the Brown Marmorated Stink Bug: Part 9 Management (Duration 9:16) http://youtu.be/tcc56HZygS8

!!!REPORT SIGHTINGS OF THE KUDZU BUG OR THE BROWN MARMORATED STINK BUG!!!

Ticks Around the Home: Nuisance and a Health Issue

John D. Hopkins and Kelly M. Loftin

Ticks are more closely related to spiders and scorpions, than to insects. There are two families of ticks known as “Hard” ticks and “Soft” ticks. “Hard” ticks have hard smooth skin and an apparent head (which is actually the tick’s mouthparts), transmit most of the common tick-borne diseases in the U.S. and throughout the world. They are most commonly found in the woods and on pets. “Soft” ticks have tough, leathery, pitted skin and no apparent “head” (their mouthparts are hidden below their body’s front end). They are usually found on birds, in caves, or rustic cabins.

Lone star tick, *Amblyomma americanum* **(Linnaeus). Male (L), Female (R) – Hard Tick**

American dog tick, *Dermacentor variabilis* **(Say). Male (L), Female (R) – Hard Tick**

Brown dog tick, *Rhipicephalus sanguineus* **(Latreille). Male (L), Female (R) – Hard Tick**

Blacklegged tick, *Ixodes scapularis* **(Say). Male (L), Female (R) – Hard Tick**

Spinose ear tick, *Otobius megnini* **(Duges). Soft Tick**

Several tick species in the U.S. are known or potential vectors of tick-borne diseases that infect humans, pets and livestock. Some of these diseases include Rocky Mountain spotted fever, tularemia, ehrlichiosis, babesiosis, and Lyme disease. For additional information on tickborne diseases see the following references:

> Tickborne Diseases of the United States: A Reference Manual for Health Care Providers. First Edition, 2013. http://www.cdc.gov/lyme/resources/TickborneDiseases.pdf

> Survey of Borreliae in ticks, canines, and white-tailed deer from Arkansas, U.S.A. by Trout Fryxell, Steelman, Szalanski, Kvamme, Billingsley, and Williamson. Parasites & Vectors 2012, 5:139. http://www.parasitesandvectors.com/content/5/1/139

Preferred tick habitat includes woods, tall grass, weeds and brush. Ticks climb onto low vegetation and attach to suitable hosts, like people or pets, when that host passes by. Ticks seldom pose a problem in well-maintained landscapes although edges of property supporting tall weeds and brush can be a source of infestation.

The best way to avoid a tick bite is through prevention. One should avoid walking through uncut fields, brush and other areas likely to harbor ticks. When enjoying outdoor activities in tick infested areas wear long pants tucked into socks and consider using tick repellents. Walk in the center of mowed trails to avoid brushing up against vegetation. Upon returning from tick-infested areas, inspect family and pets and promptly remove any ticks that are found. Trim grass and shrubs in your yard regularly and keep overgrown vegetation cleared from the edges of your property. Ticks avoid direct sunlight and will not infest areas that are well maintained.

Free-roaming pets are much more likely to become infested with ticks than are those which are confined. Consult your veterinarian for recommended tick control products for pets. A good way to determine if ticks are present is to drag a 3x3-ft white cloth through the suspected infested area. Ticks will attach to the sheet and be visible against the white background.

Treating well managed/properly cut lawns is of little benefit since this is not a preferred habitat for ticks. If insecticides are used, treatment should be concentrated in areas where pets, rodents, and other potential wild hosts of ticks are likely to frequent, such as, dog houses, fence lines, and along margins between wooded or brushy areas and the lawn. Liquid insecticide formulations containing beta-cyfluthrin (Bayer Advanced), deltamethrin (Hi-Yield, Spectracide), lambda-cyhalothrin (Spectracide), gamma-cyhalothrin (Spectracide), permethrin (Various), or carbaryl/Sevin (GardenTech) have been effective in controlling ticks. Liquid spray formulations will be more effective

that granular formulations as a liquid spray will contact vegetation that ticks may have crawled up onto, while granular formulations will fall and filter down through the vegetation to the soil surface where questing ticks are much less likely to be found. Control may require more than one application. The first application may be made during April or May when ticks are first detected. A second application may be applied in early July or as needed.

For control recommendations around homes and on pets, consult the current edition of MP144 Insecticide Recommendations for Arkansas. http://www.uaex.edu/Other_Areas/publications/mp-144.asp

All chemical information is given with the understanding that no endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned. Before purchasing or using any pesticide, always read and carefully follow the directions on the container label.

Other sources for tick information include:

MP484 - Arthropod Pests of Equines. http://www.uaex.edu/Other_Areas/publications/PDF/MP484.pdf

FSA7027 - Ticks on Beef Cattle. http://www.uaex.edu/Other_Areas/publications/PDF/FSA-7027.pdf

FSA7047 - Tick-Borne Diseases in Arkansas *(Currently under Revision)*. http://www.uaex.edu/Other_Areas/publications/PDF/FSA-7047.pdf

The TickApp for Texas & the Southern Region. http://tickapp.tamu.edu/

Getting Rid of Mice and Rats in Buildings

Becky McPeake

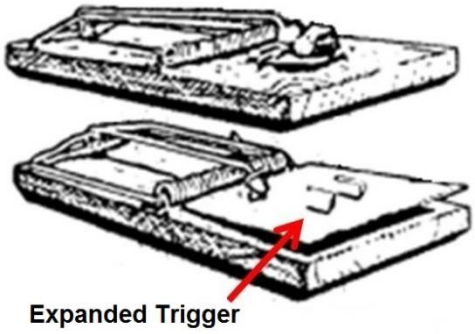
Cooling weather patterns often coincide with wild animals seeking shelter, including rodent invasions into homes and outbuildings. House mice and rats can be a problem any time of year, but they tend to move indoors when the weather turns cold.

The first step for eliminating problems with mice and rats is a carpentry issue. Repair and seal any and all holes where mice can come through. This includes sealing electrical and plumbing entries into your structure. This is very important. You can trap and remove rodents 24/7, but if more of them can get in, chances are you will never win the battle. Use wire, steel wool, or other gnaw-proof material for sealing the smallest of potential entries. If you can't do carpentry work yourself, hire a professional.

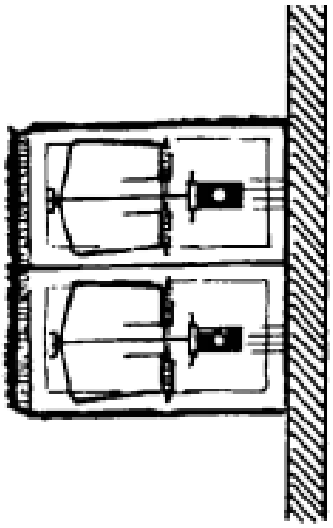
Once holes are sealed, it is time to remove the mice and rats that are trapped inside. A variety of lethal and non-lethal methods are available for purchase from local farmer co-ops or home/garden centers. Examples are snap traps, one-way traps, live box traps, glue boards, and rodenticides.

A gap around the central air pipe allowed rodents to enter this home. Photo by Stephen Vantassel, www.icwdm.org.

Snap traps tend to be the most economical and efficient way to remove a couple of home invaders. Increase your odds of success by placing two traps side by side and perpendicular to the wall, with the trigger side of the trap closest to the wall. Mice and rats tend to run where the wall meets the floor. Place traps in areas where you have seen them, their feces, or other visible signs. Sometimes grease marks where their fur rubs the wall are seen. Place peanut butter on the trigger. If the rodent licks off the peanut butter but doesn't trigger the trap, tie or glue a sunflower seed to the trigger. Another trick is to glue a square piece of cardboard to the trigger to increase the size of the trigger area, which improves the odds of the trap tripping at the right time. Use disposable gloves when removing dead rodents from traps. Place the carcass in a zip lock bag and dispose with the trash. Or use the bag as a glove by turning the bag inside out. Place your hand in the bag and grab the carcass. Pull the bag over the rodent without touching it, and zip the bag shut.



Expand the trigger area by gluing a piece of cardboard to the trigger before applying bait.



Placing two traps perpendicular to the wall doubles your chances of success.

Live box traps can be used to capture and release rodents outdoors. Put a small amount of batting, wood chips, or anything they might use for nesting material in the back of the live trap. Bait the trap with peanut butter, seeds, or even water in a small container. Eliminate other accessible open water sources, such as a pet's watering bowl, to improve your trap's effectiveness if used as bait.

Lethal poisons can be effective if applied according to their directions. Mice and rats which do not consume enough poison learn to avoid bait. Mice and rats which consume a lethal dose may not die immediately. They can die in places that are inaccessible in homes, such as behind a wall, where an odor will linger until the body fully decomposes. For this reason, using poisons may not be the best option for homes. For outbuildings, using rodenticides may be an option. Read the label about appropriate use. If small children or pets can get access to the bait, purchase or build a bait station that limits entry to only mice or rats. Keep in mind that pets and non-target wildlife species can become ill or die from consuming poisoned rodents. Follow the carcass disposal directions discussed in the previous paragraph and immediately remove dead rodents.

Devices which emit subsonic or ultrasonic sounds have not proven effective at frightening or repelling mice or rats.

Additional resources are available at Extension's Dealing with Wildlife website at http://www.arnatural.org/wildlife/dealing.

Name That Weed

Bob Scott

This month's weed is an erect prostrate or weakly ascending winter annual or biennial herb. It is a common problem in winter wheat and turf. It can be difficult to control in wheat, usually requires an application of 2,4-D in the spring or maybe Finesse or Peak herbicides (hint, see wheat weed control table in MP44). When you cut this plant at ground level the stem is red on the inside. It has a yellow flower at maturity and also is difficult to control in burndown situations at this stage. There are many species in this family that share the same second part of a common name including two aquatics "winged and water", also numerous terrestrial species including "showy _____"

Be the first to ID this weed and send the answer to me at bscott@uaex.edu, and win a PRIZE!

To The Readers

Please offer any suggestions for Urban or Livestock Integrated Pest Management topics (insect pests, plant diseases, weed problems, wildlife control problems) that you would like to see – *OR* – feel free to submit an article that you have prepared. Kelly and I will be glad to include it (subject to editing). Send feedback to jhopkins@uaex.edu or kloftin@uaex.edu

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