



Bug-Wise

No. 10
August 7, 2006

Office: 1-662-325-2085

Invasive Insect Pests: Many of our most important insect pests are non-native insects that were accidentally brought here from other countries. Fire ant, boll weevil, and Formosan termite are three examples, but there are hundreds more. Asian longhorned beetle and the emerald ash borer are two relatively recent arrivals that have caused a lot of problems in some northern states during recent years. Such non-native pests are often referred to as ‘invasive pests’.

For an invasive pest to successfully establish in a new country, it has to have environmental conditions similar to those in its native land. There’s not much chance of fire ants becoming an invasive pest in Michigan, because the winters are too cold. But, there are plenty of places around the globe that have environments similar to Mississippi, and there are a lot of insect pests in these parts of the world that could do well here, if only they had a chance.

Invasive pests often thrive better, and thus become a bigger problem, in their new home than in their native land because they often leave their natural predators and parasites behind. This is why fire ants are a bigger problem here than they are in Argentina and Brazil. In addition, invasive pests often displace more benign native species. This too occurred with fire ants as they colonized the Southeastern states. Similar phenomena occur with other kinds of animals and invasive plants. Consider what happened when rabbits, or prickly pear cactus, were introduced into Australia.

Because of the serious economic threat that invasive pests pose to the US, there is a large, active effort to prevent their entry. USDA APHIS (Animal and Plant Health Inspection Service) maintains a large force of trained personnel to inspect produce and other items shipped into this country and reject infested shipments. They also establish and enforce quarantines. Some types of unprocessed produce are not even allowed into the country because of the high potential for unwanted pests to be introduced. State Departments of Agriculture also inspect items being shipped into the state and enforce quarantines. In Mississippi the Bureau of Plant Industry performs this service.

So there is a strong ‘net’ around the US that will hopefully intercept invasive pests before they become established. But it is still a ‘net’ and nets have holes. This is why all of us that work with horticultural and agricultural products need to be vigilant for new or ‘unusual’ pest problems. If you’ve worked with a crop for several years, you don’t have to be an expert in insect taxonomy to know when you are seeing something unusual. Even if you can’t tell that the insect is different, you may be alerted by damage that is different, or more severe, than anything you have seen in the past.

If you find yourself thinking ‘I haven’t ever seen anything like this before’, it’s a good idea to let someone else know about it and find out what you are dealing with. Contact your County Agent or, especially if you are dealing with a shipment of plants or other products that has just been brought into the state, contact the Bureau of Plant Industry or APHIS.

The list of potential invasive insect pests that could be a threat to Mississippi is far too long to address here. Chile thrips, pink hibiscus mealybug, and European wood wasp are briefly discussed, as examples of the types of invasive pests we have to be concerned about.

Pink Hibiscus Mealy Bug, *Maconellicoccus hirsutus*: This pest was first detected in Florida in 2002 and has now been detected in a number of south Florida counties. Infested shipments of nursery stock have also been intercepted and destroyed in other southern states. As the name implies, this is a mealy bug that is pink, but note that some other mealybugs can appear pink. PHMB lays its eggs in cottony egg sacs, and the eggs are also pink.

PHMB attacks a wide range of hosts, including many ornamental plants, vegetables, citrus, and row crops like cotton and soybeans, but so far, most infestations have been on tropical hibiscus. These insects inject toxic saliva when feeding and heavily infested plants may exhibit distorted terminals and terminal leaves, a condition referred to as ‘bunchy top’. This is a tropical/sub-tropical insect, but there is potential for it to appear in southern Mississippi. If you encounter plants that you suspect may be infested with this pest, collect samples of infested plant material and preserve in alcohol and contact someone to inspect the plants.

Chile Thrips, *Scritothrips dorsalis*: To the unaided human eye all thrips look pretty much alike—tiny spindle-shaped insects that you can barely see. But there are many different species of thrips, and Chile thrips is one that we don’t have yet. This thrips was first detected in Florida last fall on roses. As the name implies, it is a pest of peppers, but it also attacks many other plants, including many ornamentals, vegetables, trees and row crops. Chile thrips are especially damaging on peppers, strawberries, peanuts, and roses.

Rose growers are all too familiar with native thrips feeding in their blooms, especially in light-colored roses. Chile thrips attack the foliage, as well as blooms. Heavy infestations can cause severe leaf distortion and eventual defoliation. Distorted leaves are also a symptom of infestation on peppers, but fruit is damaged as well. So far, most of the infestations encountered have been on roses or peppers, so be sure to contact appropriate personnel if you encounter severe leaf distortion on either of these crops with thrips present.

European Wood Wasp, *Sirex noctilio*: Wood wasps are a little known group of insects, sometimes called ‘horntails’. The female wasps use their strong ovipositor, the ‘horntail’ to insert eggs into trees, where the larvae develop as wood borers. We have several native species here in the state, but they are seldom seen and do not cause serious economic damage. EWW is a serious invasive pest in Australia and South Africa where it attacks Monterey pine plantations, and in South America. It’s already caused billions of dollars of damage in Australia alone. When they lay their eggs female EWW also inoculate the tree with a fungal disease that makes the wood more favorable for development of the larvae. This is what makes EWW so damaging.

EWW attack a wide range of pines, including slash and shortleaf, but are especially damaging to Monterey and loblolly. We don’t grow Monterey pine here, but loblolly and slash are some our most important species. So it could potentially be a very ‘big deal’ if this wasp became established here in Mississippi. Timber is one of our major crops and our monoculture pine plantations are especially susceptible to this type pest. EWW was first detected in the US in 2004, in the state of New York and has now been verified in at least 15 counties. So far, it has not been found in the Southeast.

Although the wasps are most attracted to stressed or dying trees, they can successfully attack healthy trees. Watch for pines that are turning yellow or brown in the crown or are dying and have streams or beads of resin on the trunk. Alert appropriate authorities if you encounter these symptoms. Larvae are easy to distinguish from other wood borers because they also have a strong ‘horntail’. Exit holes of emerging adults are about ¼ inch in diameter.

Biological control with a nematode has proven successful in other countries. The wasp actually helps spread the nematode. Hopefully, this nematode will work here as well, should this pest appear in Mississippi, but early detection is key to minimizing potential impact.

Blake Layton, Ph.D.
Extension Urban Entomology Specialist