

## Yard and Garden – 01-10-2015 – Ted Griess/Extension Horticulture Assistant

Winter has definitely arrived. Temperatures outdoors are frequently dropping below zero. All I can say is I'm thrilled to find shelter in the comfort of my warm, heated home. Thanks to our furnace and fireplace, along with our home being insulated, I now find myself as the expression goes, 'snug as a bug in a rug', even when outdoor temperatures are bone-chilling cold.

As we all know, insulating materials have been used in building construction for many years. The purpose of insulation is to shield the interior of our homes from the sun's extreme heat in the summer and the freezing cold in the winter. Over the years, these insulating materials have varied. In the last few decades an assortment of plastic materials have become popular insulators. One such material widely used today is a urethane foam sprayed between the walls of homes and other buildings. This liquid foam quickly changes to a solid and when so doing, creates an air-tight insulation barrier to extreme temperature conditions.

Of late, my outdoor activities have been few and usually quite brief; however, this past weekend, while I was trudging through the snow in our backyard examining my trees and shrubs, I detected something that immediately made me think of urethane foam insulation. Attached to a twig on our magnolia tree was a brownish-tan glob of foam-like material. Having seen objects of this nature before, I immediately knew its identity. It was then, however, I thought of how closely this object appears in color and structure to the urethane foam insulation that we use in our homes and, more importantly, how closely it relates to the comfort and survival of the living organisms it protects.

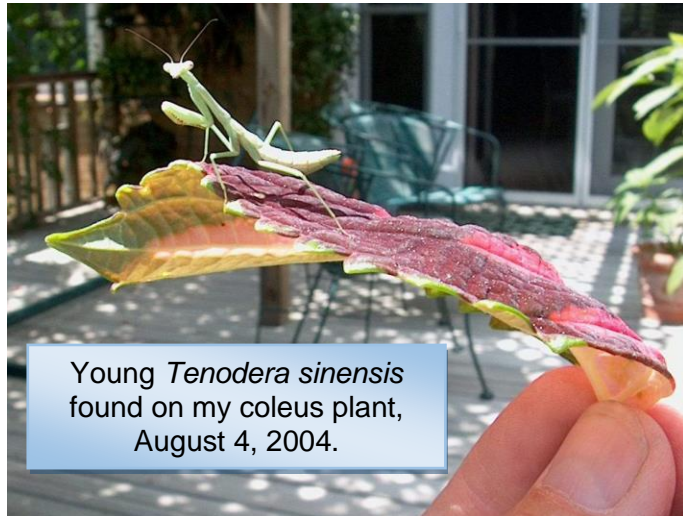


The object I discovered attached to my tree is an ootheca. This ootheca was produced by an insect. The ootheca itself is a frothy, foam-like object secreted in this instance, by a female praying mantis in which she deposits her eggs. In autumn, a female mantis secretes one or more oothecae (plural) on upright vegetation such as the branches of trees and shrubs. Many times oothecae can be found attached to the sides of buildings or the stems of an herbaceous plant that remains standing in the flower border through the winter. The froth hardens to form a tough protective case. Within each foam-like ootheca are mantis eggs

that remarkably survive the perils of winter. In the spring, when warm weather returns, tiny mantises called nymphs hatch and emerge from the egg case in search of prey.

With well over one thousand praying mantis species existing throughout the world, oothecae vary in size and shape. Certain species of mantis will fashion large, round foamy ootheca; some will produce short, thick ribbon-like ootheca. The amount of nymphs hatched also varies depending on the species. Certain oothecae will hatch only ten; whereas, some can hatch up to four-hundred nymphs. Also, depending on the species of mantis, some produce only one or two ootheca, while others can secrete up to twenty throughout their lives. Although I'm not totally positive, I'm guessing the species of mantis egg case I discovered belongs to *Tenodera sinensis*, more commonly called the Chinese mantis, a species introduced to North America more than a century ago.

Although I was tempted to remove the ootheca and carry it indoors, I knew better. I simply allowed it to continue outdoors where it originated and remains attached. From there, I will maintain a regular vigil.



Young *Tenodera sinensis*  
found on my coleus plant,  
August 4, 2004.

Unfortunately, when people discover and carry mantis egg cases indoors with the intent to protect them, they frequently discover the warmth of their home causes the eggs to hatch and the nymphs to emerge prematurely. Unable to find food, these newly hatched nymphs most likely die. It is best to leave and observe ootheca in nature allowing baby nymphs to hatch at the proper time.

For now, these unborn mantis, like we humans, are finding protection and comfort from the ravages of winter. You might say these little insects are literally 'snug as bugs in a rug' in their astonishingly foam-like, insulated ootheca homes— just another example of nature's pageantry.