

## **PURDUE EXTENSION**

Department of Entomology HN-59-W

## **HOT NEWS**

## **NUISANCE FLIES IN YOUR HOME - A BUTTERFLY EFFECT**

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Why we are experiencing more nuisance (cluster flies) in our homes this year may be due to what is called a butterfly effect. You may have heard the example in chaos theory that a nearly non-perceptible difference in the starting points of two curves, so small that it is comparable to the effect of a butterfly flapping its wings, over time can vastly change the end points of the curves. In theory, even a butterfly wing beat slightly changes the environment, which magnifies and ripples into an ever-increasing effect on the environment ultimately effecting an enormous difference. The specific example most often quoted is as follows. "The flapping of a single butterfly's wing today produces a tiny change in the state of the atmosphere. Over a period of time, what the atmosphere actually does diverges from what it would have done. So, in a month's time, a tornado that would have devastated the Indonesian coast doesn't happen. Or maybe one that wasn't going to happen, does".

So how might this theoretical phenomenon relate to the pesky cluster flies that are annoying us in our homes right now? Well, this is how. Whatever meteorological event that caused the unprecedented levels of precipitation this spring and summer also resulted in very moist soils throughout much or Indiana that lasted for an extended time. The wet soils, in turn, created conditions favorable to the development of earthworms. The earthworms stayed in the moist soils near the surface for much of the spring and summer. Cluster flies lay their eggs in the soil and when the eggs hatch, the larvae search for earthworms to parasitize. Because the earthworms were so plentiful and accessible, the parasites too were very successful. Over time, 3 generations of cluster flies parasitizing this large population of earthworms also increased into populations that we have not seen in a long time. Their abundance typically varies from year to year in relation to the weather but this year it was extremely high.

Cluster flies are named for their habit of clustering in large numbers on outside walls of homes and buildings in the Fall time. They eventually make their way through cracks in siding and window casements and eventually into wall voids and attics during the winter. They pass the winter in the adult (fly) stage and do not feed or reproduce indoors. However, when temperatures get warm on sunny days or when the furnace is on high, cluster flies become active and buzz around the room even during the winter.



Photo of a cluster fly. Note the golden colored hairs on the thorax that separate this fly from other household flies.

Flies buzzing around a room can be most effectively dispatched with a fly swatter, rolled up newspaper or sucked up by a vacuum. These are easy. The more difficult problem with cluster flies is that fact that the majority of the populations is still hiding deep in cracks, inside walls or under insulation, where they are not exposed to chemical treatments or space sprays.

Preventing cluster flies from getting into the home in the fall is the best solution. Seal cracks and openings around the outside of the house, especially under the eaves, and around windows and doors. Pyrethroid insecticides, applied as a preventative residual treatment on the outside of the house in late fall, are recommended when annual problems with attic flies persist. You may take consolation in the fact that if the weather returns to normal next year we may not have a concern.

And, of course, that all depends upon whether some butterfly beats its wings in some remote area of the world or not.