



EUROPEAN EARWIG

Forficula auricularia

Insecta: Dermaptera

The name earwig, which literally means “ear creature,” originated from the widespread superstition that these insects crawl into the ears of sleeping people. Moreover, many individuals believed that once the earwig gained access into the human ear, it could bore into the brain. Actually these insects do not crawl into the human ear.

The most distinguishing physical feature of the earwig is the claw-like forceps (or cerci) located on the end of the abdomen. These forceps are straight-sided on most females, but are more pincer-like on males. Earwigs use their forceps mainly as protective weapons, but they also use them to capture prey.

Earwigs are active at night and hide during the day in cracks and crevices. They are mainly scavengers and occasionally feed on plants. The eggs are laid in burrows in the ground and most species overwinter as adults.

There are twenty-two species of earwigs in the United States, twelve of which have been introduced from other countries. Only four or five species are common pests which invade homes. This fact sheet focuses on the European earwig (*Forficula auricularia* L.), which is the most prevalent earwig pest species in Pennsylvania.

The European earwig is found throughout much of the United States and is considered one of the most important earwigs since large numbers of them may seek shelter in homes and consequently become a notorious household pest.

DESCRIPTION

Adult European earwigs are 5/8 inch (16 mm) long and are dark reddish-brown in color (Fig. 1). The head is reddish and the legs are yellow-brown in color. This species exhibits polymorphism: adult males are of different size and form. The forceps of some males are 3/16 inch (5 mm) long, while others have forceps 3/8 inch (9.5 mm) long.

The European earwig is a cosmopolitan species which was introduced to North America in the early 1900's. It was observed in the United States (Seattle, WA) in 1907. This insect rarely flies and is adapted for transportation by man through bundles of newspaper, luggage, cut flowers, automobiles, etc. This insect hides in any dark, moist crevice, such as balled plants and boards.



Figure 1. Adult European earwig.

LIFE HISTORY

Adult European earwigs mate in late summer and early fall before establishing subterranean nests. Before oviposition, males return to the surface from mid-February to April. European earwigs exhibit one generation per year even though some females can produce two broods. The female European earwig invests high maternal care for eggs and early nymphal stages. After the eggs are laid, the female European earwig gathers the eggs together in a pile and stores them in a shallow hole, over which she stands guard. In the first batch, females lay from 30 to 55 eggs. Fewer eggs are laid in the second batch. Eggs of the first brood hatch in 70 days after being laid because of the cool spring temperatures and eggs laid in late spring or summer take only about 20 days to hatch.

The European earwig has four nymphal stages and exhibits two phases during growth: nesting and free-foraging. Adult females and first instar nymphs remain in the nests until a molt has occurred. Second instar nymphs seek food at night after females open the nest. These nymphs return during the day but some of them may not find their own nest. The third and fourth nymphal stages are represented by free-foraging organisms which live on the soil surface. The first and second broods go through the same developmental habits. By August and September both broods reach adulthood and pairing begins. This species is an omnivorous feeder and is often found feeding on plant food. If disturbed, these insects have a foul odor.

DAMAGE

The European earwig feeds on a wide variety of foodstuffs. It will eat almost any plant material, as well as lichens, pollen, other arthropods, and most household pantry items (flour, bread, cookies, etc.). The damage it causes to garden and agricultural plants, however, is usually minimal.

Because large numbers may seek shelter in and around homes, the European earwig also has become a notorious household pest in some areas. Although population explosions of this insect are not as intensive as those following its initial introduction into the United States, it is not uncommon to have isolated areas with high populations during periods of warm and humid weather.

When earwigs do invade homes, they can get into everything, including laundry, furniture, loaves of bread, and even clothing and bedding. They hide in cracks and crevices throughout the home and are difficult to keep out, even with the use of screens and other mechanical barriers.

MANAGEMENT

Modification of surrounding areas - Earwigs can be found in large numbers under boards, in tree holes, under decaying bark, or wherever it is moist and dark. The first step to controlling earwigs is to eliminate these and other breeding and nesting places. Homeowners should remove decaying vegetable matter around the home, such as piles of leaves or grass clippings. They should also repair poorly placed rain downspouts and broken irrigation systems, which contribute to moist, dark areas that are attractive to nesting females.

Traps - European earwig populations may be effectively reduced by using grooved-board traps set in shrubbery, in hedges, and around trees. These traps should be tended daily or twice each week by shaking the earwigs into a can containing a small amount of oil.

Exterior perimeter sprays - Chemicals may be used to control earwigs. However, most spraying should be done outside the house to provide a barrier over which earwigs will not cross. Chemicals such as deltamethrin, cyfluthrin, fipronil, lambda-cyhalothrin, cypermethrin, sumithrin or tralomethrin may be used in such perimeter areas and must be applied according to label directions. Outdoor perimeter spraying should be started during

early summer. Special attention should be paid to the areas most frequented by earwigs, including building foundations, areas along fences and walks, around trees and utility poles, and around wood piles and rocks.

WARNING

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

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