THE OHIO STATE UNIVERSITY FactSheet Extension

Ohio State University Extension Fact Sheet

Entomology

1991 Kenny Road, Columbus, OH 43210-1090

Earwigs

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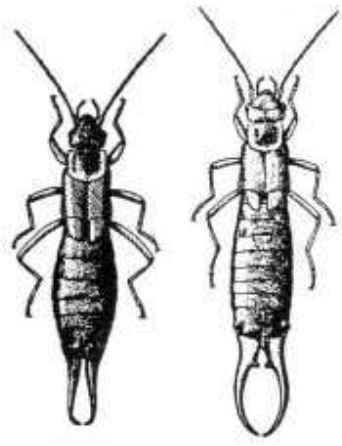
Common Name	Scientific Name
European Earwig	*Forficula auricularia* L.
Ringlegged Earwig	*Euborellia annulipes* (Lucas)



Adult European Earwig - Female & Male

Earwigs may cause alarm to homeowners when discovered indoors. They have a frightful appearance, move rapidly around baseboards at the ground level, and may emit a foul-smelling, yellowish-brown liquid from their scent glands. These creatures, active at night while hiding during the daytime, normally live outdoors and do not establish themselves indoors. They are harmless to humans and animals, although if handled carelessly, the earwig can give a slight pinch with the forceps. Serious feeding damage may occur on flowers, vegetables, fruits and other plants, giving the leaves a ragged appearance with the numerous, small, irregular holes. Also, decomposing organic matter is consumed. They are considered temporary pests in spite of the fact that they sometimes occur in large populations.

Identification

Earwigs are elongate, flattened insects, ranging from light red-brown to black and are easily recognized by their forceps-like appendages (pincers) on the end of the abdomen. The forceps (cerci) are unequal in length in the males. Earwig female forceps are straight-sided, whereas male forceps are strongly curved (caliper-like) and larger. They have chewing mouthparts and long, slender antennae and are either winged or wingless. If wings are present, the first pair are hard, short and "beetle-like," while the second pair are membranous, fan-shaped and folded under the hard first pair of wings. Tips of the second pair of wings usually protrude from under the first pair. The European earwig ranges from 1/2 to 3/4 inch long, with banded legs and reddish head. The ringlegged earwig ranges from 1/2 to 3/5 inch long and is black-yellowish underneath with legs having dark crossbands. Young earwigs (nymphs) are similar to adults. They are white to olive-green and lack wings.

Life Cycle and Habits

The name earwig is derived from a European superstition that these insects enter the ears of a sleeping person and bore into the brain. This belief is totally unfounded. Earwigs develop from egg to adult through gradual metamorphosis with four to five nymphal instars or stages. During the spring or autumn, females lay 20 to 50 smooth, oval, pearly-white or cream-colored eggs in a below-ground chamber (upper two to three inches of soil). The female moves, cleans, and provides maternal care by protecting the eggs and new young until the first molt. Young then leave the nest, fend for themselves and mature in one season. Both eggs and adults overwinter. Earwigs may dig as deep as six feet below ground to escape the cold temperatures. They are active at night and are often found around lights. During the day, they hide in moist, shady places beneath stones, boards, sidewalks and debris. They are rapid runners and feed on mosses, lichens, algae, fungi, insects, spiders and mites, both dead and alive. Some earwigs are predators, feeding on aphids and others feed on living plants, becoming pests in greenhouses and on certain crops such as vegetables, fruits, ornamentals, forages and field plants.

Earwigs rarely fly and are unable to crawl long distances, but often hitchhike in laundry baskets, cut flowers, luggage, newspapers, lumber, baskets of fruits and vegetables, automobiles, etc. They prefer moisture and may migrate indoors during periods of prolonged heat and drought. Forceps at the end of the abdomen are used to defend the nest, capture prey, probe narrow crevices and fold or unfold wings.

Earwigs require moist, cool places and are found in damp crawl spaces, flower gardens near the home, in mulches, compost piles, trash, under boards and in wood piles. After entering houses, they feed on sweet, oily or greasy foods or houseplants. They are attracted to lights.

Control Measures

For best control indoors, one must first control earwigs outdoors. Since they are attracted to lights, reduce lighting around doors, windows and other potential entry sites. Use good night light discipline and special sodium vapor yellow lights (less attractive to insects) instead of white, neon or mercury vapor lights.

During dry, hot weather, earwigs sometimes migrate indoors. They are easily killed by residual insecticide treatments in cracks and crevices, along baseboards, beneath cabinets, along door and window sills and other hiding places during the day. Unfortunately, control will be short-term due to new earwig entry from outdoors.

Prevention

Earwigs need and are very attracted to moisture. High populations, practically invisible during the day, may be present around foundations, in landscaped yards, in mulch, under boards, etc. Be sure to eliminate damp, moist conditions in crawl spaces under houses, around faucets, around air-conditioning units and along house foundations. Rain gutters and spouts should carry water away from the house foundation. Use caulking compound, putty and weather stripping around doors, windows, pipes and other entry sites, especially at the ground level. Change landscaping by creating a clean, dry border immediately around the foundation wall. Gravel or ornamental stones can make an attractive barrier against earwigs and other pest invaders.

Trapping

Earwigs can be trapped outdoors in cardboard boxes baited with oatmeal or bran with pencil hole size entry sites punched in the sides near the bottom. Place burlap bags, canvass, boards, newspapers or other cover material in mulch, shrubbery and similar habitats to collect individuals the following day. Shake specimens into hot, boiling water or burn trapped earwigs in newspaper rolls. Indoors, remove with broom and dustpan or by vacuum cleaner.

Insecticides

There are many insecticides labeled for earwig control. Indoor treatments should supplement outdoor treatments since earwigs do not become established indoors. Dusts and residual sprays are effective when applied to baseboards, beneath cabinets and other hiding places at the floor level.

Indoors, treatments of bendiocarb (Ficam), chlorpyrifos (Dursban), diazinon, propoxur (Baygon), pyrethrins, boric acid dust, diatomaceous earth dust or resmethrin into cracks and crevices will give control. Outdoors, treat in a three to six foot band around the building adjacent to the foundation (perimeter treatment) to stop or limit earwigs from getting indoors. Apply, if needed, beginning around the end of spring and throughout the summer to the building foundation, subfloor crawl spaces, flower beds, turf or mulch in late afternoon. Apply during late spring and summer to control young earwigs. Water the dust or granule formulation into the soil. Avoid injuring ornamental plantings or flowers around the house. Always read the pesticide label and follow directions and safety precautions.

In 1992, Doug Caldwell of Davey Tree Expert Company, Kent, Ohio, treated earwigs. He found that carbaryl (Sevin), cyfluthrin (Optem, Tempo) and chlorpyrifos (Dursban) had a slow killing effect within two hours, but became 100 percent effective in 18 hours. Also, M-Pede (Safer Soap) killed 77 percent of the population quickly within two hours, but there was no residual action. Restricted Use Pesticides labelled for the licensed pest control operator or applicator include bendiocarb + pyrethrins, cyfluthrin (Optem, Tempo), cypermethrin (Cynoff, Cyper-Active, Vikor), permethrin (Dragnet, Flee, Prelude, Torpedo), propetamphos (Safrotin) and tralomethrin (Saga). Fluvalinate (Mavrik, Yardex) is labelled for outdoor use. Other labeled pesticides for earwigs include acephate (Orthene), amorphous silica gel (Drione, Tri-Die), chlorpyrifos (Duration, Empire, Engage, Tenure), chlorpyrifos + pyrethrins (Dual Use), and esfenvalerate (Conquer). Bait formulations may be helpful but are not very effective for either indoor or outdoor control due to the long length of time required to gain control. There was 100 percent mortality at three to ten weeks in tests at Virginia Polytechnic Institute and State University.
