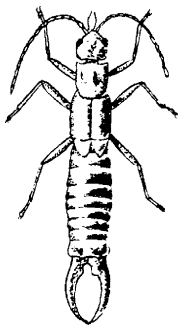
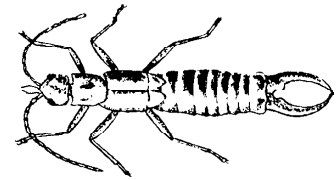




Effective Control of Earwigs



March 2004

Pest Note Pest Note Pest Note Pest Note Pest Note Pest Note Pest Note Pest Note Pest Note Pest Note

The European Earwig

The common name *earwig* is derived from a European superstition of ancient origin that these insects enter the ears of sleeping persons. Despite their formidable appearance and reputation, earwigs are not directly harmful to humans. Indeed, earwigs are often beneficial in habit, acting as scavengers of decaying matter and predators of insect larvae, slug eggs, aphids, and other garden pests.

Native to Europe, the European earwig was first sighted in what is now Canada at Carbonear, Newfoundland, as noted in a report covering the period 1827-1835. Its presence was also recorded at Newport, Rhode Island in 1911. Having few North American predators, the earwig moved west to California and then rapidly made its way north. In many areas of eastern Canada and British Columbia it has become a garden pest. The earwig can damage leaves, fruits, vegetables and flowers, particularly when plants are young. When earwigs are numerous, they may invade homes but will not breed indoors.

Description of the Adult Earwig

The length of the adult earwig is approximately 1.5 to 2.0 cm. It is elongated and flattened, with a tough, shiny, reddish-brown exoskeleton and antennae about half as long as the body. This insect is distinguished by prominent pincers, or forceps, at the end of its body. The male has a large, curved pair, whereas the female's are smaller and nearly straight. The earwig uses these fierce looking appendages during courtship, and in defence to grasp attacking insects. Adult earwigs have small, leathery wings; to fly, they

must take off from a high place as their wings are not strong enough to lift them from the ground.

Life Cycle

Earwigs live only one year. They spend the winter hiding just below the soil surface, usually close to house foundations. Warm weather brings them out of hibernation.

In the spring, each female lays as many as 60 round, pearly white eggs in a nest in the top 5 cm of the soil. The mother tends the young in the nest for the first two weeks. When they are about 6 mm long, the young leave the nest in search of food. An earwig will shed its skin, or moult, four times before reaching adulthood in about 70 days. The young are similar in general appearance to the adult, but smaller. About one fifth of the females lay a second batch of eggs in June. The young from these appear in July and August.

Habitat

During the day, earwigs like to hide in cool, dark, moist places. They crawl under stones, into garden rubbish, into tubular legs of garden furniture, wooden fences, hollow aluminum doors and into other cracks and crevices.

Earwigs come out of hiding at dusk to begin foraging. Although decaying organic matter forms the largest part of their diet, earwigs also feed on the tender shoots, leaves and blossoms of such flowering plants as marigolds, roses, carnations, clematis, dahlias, zinnias, gladioli, chrysanthemums and asters. They can chew on garden vegetables such as lettuce, celery,

potatoes, beans, carrots, sweet corn and cole crops. Earwigs are also carnivorous, eating other small insects and sometimes even each other.

In search of food and shelter, earwigs crawl over the ground, climb houses, fences and trees, and usually begin to infiltrate homes in June or July. What is particularly objectionable is to find these insects among foodstuffs, clothes and occasionally between bed covers.

Modification of Habitat

The best time to begin control measures is in early spring, during dry, warm weather, when the earwigs are young. In populated areas, control is most effective when carried out on a neighbourhood or community basis.

Since earwigs overwinter just below the soil surface, and females lay their eggs in small nests, cultivating the soil can disturb the overwintering earwigs and expose newly laid eggs to the dry surface where they are less likely to survive. Exposing adults to the surface will attract birds, insect predators such as the praying mantis and certain parasitic flies.

Keeping the lawn and garden free of debris and decaying organic matter from early spring to late fall is also a very important control method. Grass clippings, fallen leaves, garden chaff, weeds and old wood should not be allowed to accumulate.

Starting vegetable gardens as early as possible will give plants a headstart on the young nymphs when they emerge from their nests in June.

Other Control

Non-chemical methods such as trapping and baiting have been found to be effective in controlling earwigs.

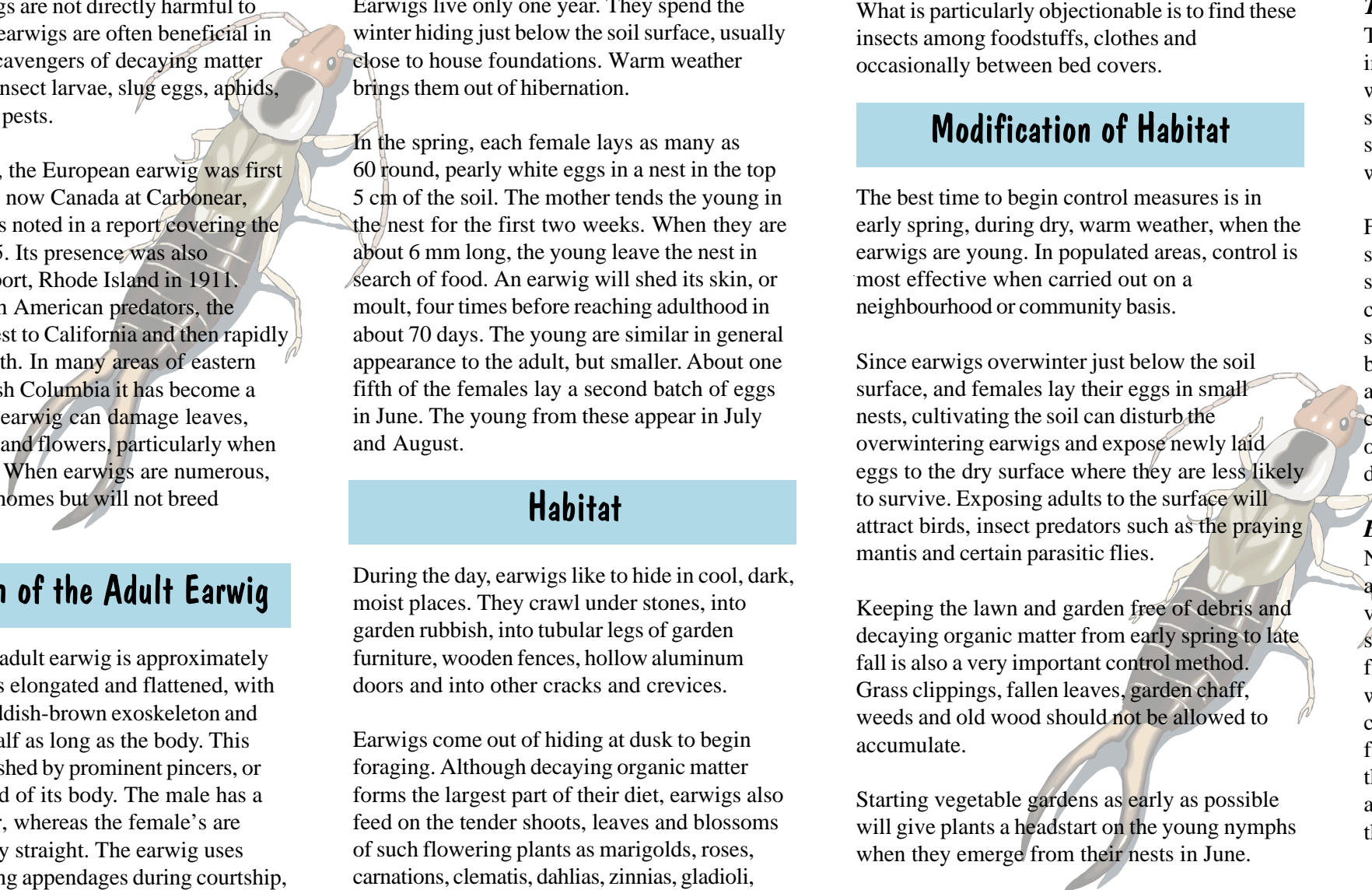
Trapping

Traps that appeal to the earwig's need for shelter include pieces of corrugated cardboard, or wood with grooved surfaces, facing each other and secured by a rubber band. Place them on end, in shrubbery, hedges, around trees, and in areas where earwigs commonly seek shelter.

Flower pots may be stuffed with moistened straw, hay or newspaper, then inverted onto stakes planted in the ground. Hollow bamboo canes that are open at both ends, and short sections of old garden hose, or rubber tubing, can be tied into bundles and placed under vegetation, against a fence, or anywhere earwigs congregate. Empty traps each morning into a pail of hot water, or water topped with kerosene or detergent.

Baiting

Natural Attractants – Earwigs are strongly attracted by fish oil and to a lesser extent to vegetable and other oils. Aluminum plates, sardine cans or other shallow containers, partly filled with oil and buried to the rims in the soil, will attract and trap many earwigs. This method can also be effective using empty *UNRINSED* frozen juice containers. Fill the tins two-thirds of the way with water, top them with liquid soap, and place them near foundation walls and throughout the garden.



Chemical Control

Many products registered in Canada to control earwigs can be bought at reputable garden centres or hardware stores. Most garden insecticides will only work when the insect comes into contact with them. Large populations may develop tolerances to a particular chemical being used.

Poisoned Baits

Scatter baits containing sodium fluosilicate where earwigs are noticed, such as lawns, on the base of trees, along fences, hedges, and woodpiles, in flower beds, and around foundations of buildings.

Set out Carbaryl-based baits in small piles of pellets as bait stations, covering each pile with a board, shingle or weighted foil plate. Covered bait stations attract earwigs and provide protection to pets.

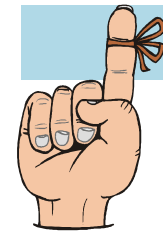
Chemical Sprays and Dusts

Use dust only where children and pets cannot come into contact with treated surfaces. The best time to apply insecticides is during warm, dry weather when the earwigs are young. In many parts of Canada, this means June; in a few of the more northerly areas, early July. Since earwigs are nocturnal, applications should be done during the evening so that residues are fresh when the earwigs become active. Important areas for treatment include building foundations, sidewalks, fences and woodpiles, as well as the trunks and crotches of trees, under shrubs and other ground cover that affords a hiding place for these insects. Do not water treated areas for at least two nights after the application. Treatment later in the summer is less effective.

Carbaryl or diazinon sprays, and carbaryl or methoxychlor dusts, can be applied directly on flowers and vegetables being attacked. Insecticidal soaps and diatomaceous earth formulations may also be effective where they will contact earwigs directly. It may be necessary to repeat applications at regular intervals. See label directions.

Where the presence of earwigs in dwellings is a persistent problem, treatment with an insecticide may be advisable although the earwigs will die out eventually. The outdoor source of the infestation should be treated as well.

To discourage earwigs from invading the house propoxur formulations can be sprayed around exterior window frames, doors and the foundation and adjacent soil. Indoor spot treatments with a residual spray containing one of diazinon, malathion, or propoxur can be made along baseboards, drainpipes, and under the edges of carpets and rugs.



Remember

Before Purchasing a Pesticide Product

- Identify the pest correctly.
- Use physical control methods and alternatives to pesticides.
- Read the label directions and safety precautions before buying the product. The label must include the name of the pest to be controlled and the treatment location (e.g., indoor, outdoor, garden uses, pet treatment).
- Purchase only the quantity of product needed for the treatment.
- Alternatively, you may choose to hire a licensed pest control operator.

When Using a Pesticide

- Carefully read all label instructions and precautions before using pesticides.
- Do not drink, eat or smoke while applying pesticides.
- Persons and pets should vacate the area during treatment. Cover or remove aquaria.
- If kitchen area is to be treated, cover or remove food, dishes and utensils.

After Handling a Pesticide

- Always wash your hands thoroughly after handling any pesticide product.
- Do not permit persons or pets to contact treated surfaces until residue has dried completely.
- Provide adequate ventilation of treated areas after use.
- Wipe clean all surfaces that come in direct contact with food, such as counters, tables and stovetops, including indoor and outdoor surfaces.

- Always store pesticides out of reach of children and pets and away from food and beverages.

In Case of Accidental Poisoning

- Call a poison control centre immediately and seek medical attention.
- Take the pesticide container or label with you to the emergency facility or physician.
- Follow first aid statements on the label.
- In case of accidental poisoning of pets seek veterinary attention immediately.



When Disposing of Pesticides

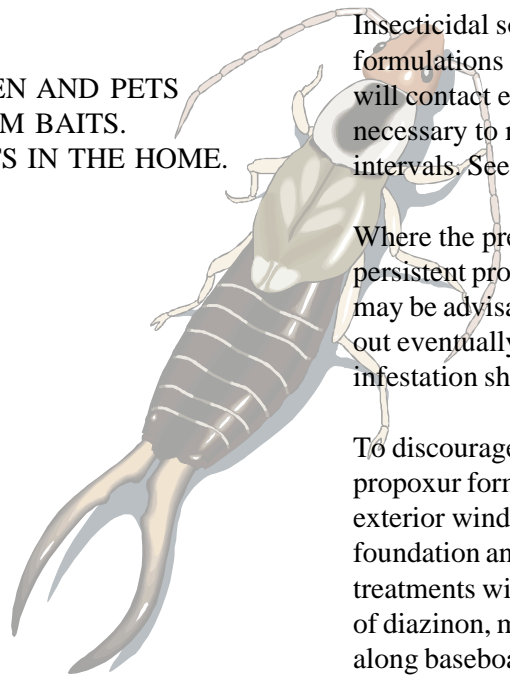
Do not reuse empty pesticide containers. Wrap and dispose of in household garbage.

Unused or partially used pesticide products should be disposed of at provincially or municipally designated household hazardous waste disposal sites.

Use Common Sense

- These are general recommendations.
- Consult the label for specific instructions.
- When in doubt, contact a professional.

KEEP CHILDREN AND PETS
AWAY FROM BAITS.
DO NOT USE BAITS IN THE HOME.



Pest Management Regulatory Agency
2720 Riverside Drive
Ottawa ON K1A 0K9

Pest Management Information Service
Telephone: 1 800 267-6315
From outside Canada: (613) 736-3799*
*Long distance charges apply.
Fax: (613) 736-3798
Internet: www.hc-sc.gc.ca/pmra-arla