

# The Hungry Bird: European Earwig

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Every piece of “fake news” has an originator: politician, big money donor, newscaster, kid in a junior high hallway, anonymous source, plea bargainer, snitch, Pliny the Elder. Yes, the Roman author who attempted in the first century A.D. to synthesize all knowledge of living things into his famous *Naturalis Historia* is perhaps the first person to put on paper a persisting urban legend about earwigs. Contrary to what he wrote, no matter how authoritative Latin sounds, they do not routinely crawl in our ears and burrow into our brains, sometimes leading to death. They are physically harmless (pinches and phobias don't count) to humans. Also, going against his “truth”, the cure for such unwanted entries into our ear canal, which certainly might happen on rare occasions, is not “...make no more ado but spit into the same (i.e. “eare”), and it will come forth anon.” (Holland 1601, Murphy 2004, Bostock). Were he still alive, Pliny would go viral daily. Can you imagine his YouTube productions?

The origin of the term “earwig” is disputed. It might derive from Old English translations of the words ear (“eare”) and beetle (“wicga”). This version of the term is attributed to Swedish entomologist Charles DeGeer (DeGeer, 1773). It might come from the fact that the shape of unfolded hind wings resemble that of a human ear, thus, “ear wing”. Then there are the writings of Pliny the Elder. Suffice it to say “ear” is in there somewhere.

Earwigs are in the order Dermaptera, which means “skin wing”, traceable to the forewings being reduced, below which protrude the transparent hindwings. This order, comprised of 2000 species occurring worldwide except for Antarctica, is mostly predaceous on other small insects. However, when insects are scarce, many species feed on plant foliage, flowers, and fruits. Thus, while they cannot hurt us, they might chew something we eat or otherwise value. A few non-North American species are parasites of bats and rodents. Many earwig species tend to their young. Most secrete noxious substances of use in their defense (Borror 1964, Eaton 2007).

The subject of this article is the European Earwig (*Forficula auricularia*), introduced into northeastern North America in the early 1900s (Eaton, 2007). It is by far our most abundant and commonly observed earwig in Colorado. Other earwig species on this continent are generally obscure, occurring mostly along beaches, on manure, and sometimes in stored food materials or plant roots (Borror 1964). The Gillette Museum of Arthropod Diversity at Colorado State University contains specimens collected in our state of three species of earwig, all introduced from Europe (Kondratieff pers. communication). In addition to the European Earwig, our eastern counties have produced specimens of the Ring-legged Earwig (*Euborella annulipes*) and *Labia minor*. Both are somewhat

familiar in appearance to the European Earwig and mostly have the same habits (Engel 2003).



Figure 1. *Male European Earwig showing reddish head, “see-through” tegmina, and distinctive caliper-like cerci. Grandview Cemetery, Fort Collins. Photo by David Leatherman.*

Adult European Earwigs are about 16mm long, dark brown with reddish heads. They have reduced, clear forewings (tegmina), exposing the hindwings. Perhaps their most famous feature is a pair of cerci (also called “forceps” or “pincers”) at the rear of the abdomen (Figure 1). When an earwig is handled, the cerci can produce a pinch leading to at least part of their “creepy” reputation. Earwigs undergo incomplete metamorphosis and, thus, have three life stages: egg, nymph, and adult. Five molts are required to reach full size. Earwig nymphs are usually lighter in color, being whitish immediately following a molt (Figure 2).

The European Earwig is mostly predaceous, feeding on small insects like aphids and other arthropods. It is usually found near the ground, hiding by day in all manner of dark, moist places, inside rolled leaves, under debris, behind flaps of loose plant bark.

It is generally considered a pest because plants and crops important to humans are within its diet. They feed on lettuce, certain flowers, tender leaves of tree seedlings, and other plant parts on



Figure 2. *Male American Robin with food for delivery to young that includes at least one pale, freshly-molted European Earwig. Grandview Cemetery, Fort Collins. Photo by David Leatherman*

occasion. Finding one among corn ear tassels (there's that word "ear" again) is not something most people relish.

Another potential negative associated with earwigs is their tendency to be attracted to food provided at bird feeding stations. One solution provided on-line involved a straight-sided container filled with 3-5cm of cinnamon suspended between the earwig access point and the feeder (<https://www.thriftyfun.com/tf44353309.tip.html>). The reader is directed to the CSU Extension Fact Sheet 5.533 regarding management of other problematic earwig issues in the home and garden.

But by objective analysis, despite their reputation deserved or otherwise with us, earwigs are mostly beneficial. Preying on insects we often consider pests is one of them. Another is their place in the diets of birds. When the insects or their acrid exudates are purposefully rubbed on feathers by birds, a third benefit might be the prevention/reduction of ectoparasites (Waldbauer, 1998).

The extensive Birds of North America (BNA) database overseen by Cornell University unfortunately no longer supports key word searches. Before current "upgrades", searching for the word "earwig" might well have produced some hits in the "Diet and Foraging" portion of its 700+ accounts. In researching this article, random checks of logical bird species accounts in BNA produced few direct references to earwigs. A similar query of the internet for "birds eating earwigs" revealed much more in the way of photos and anecdotes. The following is a summary of web nuggets mined from the ore, followed by my personal experiences.

Given that earwigs were introduced to Colorado by humans, probably in the 1950s, and that they do best in moist, plant-dominated habitats like gardens and areas of ornamental and native trees, the list of birds known to eat them makes sense (Cranshaw 2014). Wrens are prominent earwig eaters (Johnson 2014). So are chickadees, nuthatches, bluebirds, thrushes, mimic thrushes, creepers, and woodpeckers.

In the way of specific anecdotes, photographer T. Grey has a wonderful photo of an American Pipit in Palo Alto, CA with an earwig in its beak (Grey, 2018). Rick Derevan's Flickr page shows an adult Nuttall's Woodpecker delivering a load to nestlings in the Morro Bay area of California (Derevan, 2018). The Dutch photographer Roeselien Raimond, obviously lying prone on a lawn, captured a wonderful birds'-eye-view of an adult European Starling introducing earwigs to a gaggle of adoring dependents (Raimond, 2018). Reinhardt Rose comments about a Northern Mockingbird following him as he mows his overgrown lawn following vacation. The bird's attraction was to myriad earwigs now revealed down in the turf. Allan Block's blog titled "Feather Tailed Stories" nicely

portrays both a Red-breasted Nuthatch and a fledgling Eastern Bluebird holding earwigs in their mandibles (Block, 2013).

My personal anecdotes involve both American Robins (Figure 2) and House Wrens providing European Earwigs to their young at Grandview Cemetery in Fort Collins.

During summer 2017 House Wrens took up residence in an old apricot tree growing along the irrigation ditch that flows north-to-south through Grandview Cemetery in Fort Collins. Depending who one talks to, the tree is either



Figure 3. Parent House Wren bringing adult European Earwig to nest cavity in an apricot tree along the irrigation ditch north of the Grandview Cemetery entrance, 26 June 2017. Photo by David Leatherman.

“decadent and in the way” or “has character”, and if you ask me, is also a valuable habitat for cavity-nesting birds. Those in favor of the tree’s removal belong to the cemetery maintenance crew who frequently have to maneuver (i.e. squeeze past) maintenance vehicles and carts of debris between the tree and a security fence. The foremost champion of the tree is the City Parks Director who oversees the cemetery operation and likes the way the somewhat gnarly, bent over, sterile apricot looks. Then along comes yours truly who finds nesting House Wrens. Cemetery crew, you are outvoted 2-1 (8-1 if the wrens are registered).

Between 25 and 28 June 2017 I spent several hours standing quietly by the tree photographing food deliveries by the parent wrens to their brood of four young (Figures 3 and 4). An estimated 75% of the biomass fed to these nestlings toward the end of their time in the dark (they had fledged by 4 July) was earwigs! Other

items included spiders, harvestmen (“daddy-longlegs”), moth bodies, caterpillars, a fly, and a few UFOs (unidentified food objects).

So, earwigs are a mixed bag, but one that clearly does not include the hyperbole of Pliny the Elder. Yes, ears are part of the story. Brains, too, but only in the sense that birds are smart to recognize them as food, and us to encourage a few wrens to hang in the yard if we loathe earwigs. Rest easy, birds and birders, your gray matter is safe.



Figure 4. Adult House Wren with a trio of earwig nymphs for its nestlings at Grandview Cemetery, 26 June 2017. Photo by David Leatherman.

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