Holes in the Lawn

When holes and excavations mysteriously appear in lawns, it is helpful to note the season, location, and size. These are helpful clues when trying to identify the culprit and prevent further damage. The following information should help match the holes to the cause.

**Birds**
If you are very observant, you may see small holes as if something was poked into the ground, but no mounds or loose soil. These are probably caused by birds looking for food.

**Earthworms**
If the soil in your yard has a healthy population of earthworms, you may find 1-inch high piles of small, granular pellets of soil. These castings were passed through the body of earthworms the night before and were brought to the surface as tunnels were cleared. They are more common in spring and fall when soil moisture and temperatures are conducive to earthworm activity. There is usually no hole in the top.

**Insects**
There are many insects that spend the winter in the soil, during which time they transform from a larva into an adult. In the spring and early summer, especially after a rain, you may see nickel-size holes caused by their emergence. These holes may be surrounded by small mounds of loose soil and fecal pellets. Examples include cicadas and June beetles.

**Solitary Bees**
There are also insects that prefer to live in the ground during their adult stage. Many bees, for example, are solitary and will dig cylindrical tunnels in loose soil as they create chambers for egg-laying. These holes are typically between ¼- and ½-inch wide and are found where vegetation is sparse. The entrance may be surrounded by a mound of loose soil as high as 2 inches.

**Cicada Killers**
Cicada killers are large wasps that hunt cicadas and use them to feed their developing young. Females create a ½- to 1-inch diameter tunnel into which they drag immobilized cicadas. They prefer areas that are dry and bare but may also be found where grass is maintained very short. You may notice a small, u-shaped mound of dirt at the entrance as well as lines in the soil where cicadas have been dragged.
Eastern cicada killer wasp (*Sphecius speciosus*) attempting to fly to its nest in the ground with a captured cicada.

Joey Williamson, ©2014 HGIC, Clemson Extension

Crayfish

If you live near water, you may find 2-to 4-inch high towers made of balls of mud, with a 1-inch wide hole in the top. These are the work of crayfish, which are nocturnal and tunnel in areas where there is a lot of soil water movement.

Voles

Voles are small rodents, also called meadow mice or field mice. They do not hibernate, so they may be seen any time of the year. They construct surface runways as well as underground tunnels and eat a variety of plant material, especially hostas, roses, nandinas and hibiscus. Tunnel entrances are 1 to 1½ inches in diameter and no mound of soil is present.

Squirrels

Eastern gray squirrels will bury and dig up nuts in the lawn and in mulched beds. Holes are typically 2 inches in diameter, shallow and there is no mound of soil around them.

Chipmunks

Entrances to Eastern chipmunk tunnels are usually found in less conspicuous places such as near stumps, buildings, brush piles or log piles. They are about 2 inches in diameter, and typically have no loose or piled soil near the opening.

Moles

As moles create deep tunnels, or encounter roots, rocks or hard to compress clay soils in shallow tunnels, they push the excess soil out of the tunnel and to the surface. These so-called mole hills can be from 2 inches to 24 inches tall and are volcano shaped. Over time, they may flatten and become a bare area. Moles primarily feed on beetle larvae (grubs) and earthworms.
Ground Hogs
Ground hogs have been known to visit vegetable gardens and help themselves to broccoli, carrot tops, and beans. They are active during daylight hours. Their burrow entrance is usually 10 to 12 inches in diameter and is distinguished by a large mound of excavated dirt.

A large groundhog den entrance. Soil piled near hole has mostly washed away.
Joey Williamson, ©2014 HGIC, Clemson Extension

Skunks & Raccoons
Damage from skunks and raccoons occurs at night. They dig holes in lawns and gardens, looking for grubs and other insects. The holes are typically cone-shaped and 3 to 4 inches wide, but the area disturbed may be as wide as 10 inches. Both of these rascals have been known to peel back newly laid sod.

Damage to newly laid turfgrass sod by raccoons.
Joey Williamson, 2016 HGIC, Clemson Extension

Rats
Entrances to rat tunnels are also found in less conspicuous places such as near shrubbery or wood piles. They are as large as 3 inches in diameter.

Armadillos
Armadillos eat mostly insects, earthworms, and spiders. They are active from sunset to early morning hours and will root in lawns, vegetable gardens and flower beds, looking for food. Holes are typically 1 to 3 inches deep and 3 to 5 inches wide, but the disturbed area can be as wide as 3 feet. Their burrow is up to 15 feet long and has an entrance that is 7 to 8 inches in diameter. Recently, armadillos have been sited as far north in South Carolina as Anderson and York counties.

Lawn Pest Control
Eliminate beetle larvae (grubs) in the lawn, which may be fed upon by moles, skunks, raccoons and armadillos. There are many brands of grub killers sold in a granular form that can be spread over the lawn and watered in. The most efficient time to treat is during early July when the grubs are small and close to the surface. Grub treatments that contain contact insecticides will last about 2 weeks.

Grub treatments specifically containing the insecticide imidacloprid may be applied to the lawn during May. These imidacloprid products are systemic within the turfgrass and will last the entire season. The grubs are controlled as they feed on the grass roots. Follow label directions for use for rate, safety and instructions for watering in all granular products.

Moles and voles may be temporarily repelled from the lawn for about 2 weeks using a spray of castor oil to saturate the lawn. Many products are available as hose-end applicators to thorough wet the lawn being damaged, or as granular products, such as:
- Liquid Fence Mole Repellent,
- Natura Repellex Mole & Gopher Repellent,
- Motomco Tom Cat Mole & Gopher Repellent,
- Mole & Vole Stopper,
- Sweeney’s Mole & Gopher Repellent,
- Monterey All Natural Mole Repellent,
• I Must Garden Brand Mole & Vole Repellent,
• Bonide MoleMax Mole & Vole Repellent,
• Ortho Mole B Gon, and
• Dr. T’s Nature Products Whole Control Mole Repellent.

Mole may be controlled within their tunnels with poison worm baits that are inserted into actively traveled tunnels. These baits contain bromethalin, which will work within 24 hours after being eaten to kill the moles. Examples of brands are:
• Motomco Tom Cat Mole Killer,
• Talpirid,
• Victor Moleworms Kill Moles, and
• Sweeney’s Kill Moles Poison Moleworms.

Follow label directions for use, including the determination of which tunnels are actively used by the moles.

The SC Department of Natural Resources (DNR) does not allow the trapping and relocation of trapped animals to another location because of animal and human disease considerations, such as rabies. However, if the landowner has a large piece of property, the animal can be released further away from the home on the landowner’s own property. If this is not an option, then the trapped animal must be killed, and then buried or bagged and disposed of in the garbage. There are many brands and sizes of wire cage traps, such as those by Havahart Traps, Comstock Custom Cages, Tomahawk Live Traps, Catch & Release Live Animal Traps, Kage-All Live Cages, JT Eaton Live Animal Cage Traps, and Petrum Humane Animal Trap Cages.

Voles can be caught using apple slices as bait in the wire cage traps, or in rat snap traps baited with apple slices and placed near their holes.

Chipmunks can be caught in rat snap traps baited with peanut butter. Both squirrels and chipmunks can be baited into wire cage traps with sunflower seeds or peanut butter. Squirrels may be repelled by the use of sprays containing capsaicin, such as:
• Scoot Squirrel Repellent
• Bonide Go Away! Deer & Rabbit Repellent
• Hot Pepper Wax Animal Repellent
• Squirrel Away
• Havahart Critter Ridder

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• Havahart Critter Ridder

The Havahart Criddler Ridder product label also lists that it repels chipmunks.

Groundhogs, raccoons and skunks may be caught using larger wire cage traps. Use pieces of cantaloupe, sweet corn, or lettuce to entice groundhogs into the trap. Traps may be baited with watermelon, sweet corn, bacon, wet cat food, fish or any cooked fatty meat for raccoons. Skunks can be baited with sardines, canned cat food, bacon or bread with peanut butter into wire cage traps. Some trap brands are available with solid sides to prevent the person from being sprayed through the cage during removal. However, it may be advisable to hire a professional to remove animals, such as raccoons and skunks which are capable of transmitting rabies. Havahart Criddler Ridder (containing capsaicin) also lists on the label that it repels skunks and raccoons.

Armadillos damage lawns as they feed on earthworms and insects in the turf. Wire cage traps can be used to capture armadillos, but baits are not typically used. Instead, the best locations to set traps are along pathways to armadillo burrows and along fences, buildings or the side of the house where the animals have traveled. “Wings” can be made using 1 x 6 inch boards to funnel the animals into the traps (i.e., in a V-shaped arrangement). Sweeney’s Mole & Gopher Repellent (containing castor oil) also lists on the label that it repels armadillos.

Avoid touching armadillos because in the Southern states they may be carriers of Hansen’s disease.

For more information about specific nuisance wildlife control, please see the following set of fact sheets:
http://www.clemson.edu/extension/hgie/pests/wildlife/

For assistance in removal of nuisance wildlife from private property, there is a current list of professional nuisance wildlife control operators (NWCO) at the SC DNR website:
www.dnr.sc.gov/wildlife/docs/nwco.pdf

Once on the website, search for NWCO companies by county listings. These companies are in the business of wildlife control, and like most businesses, do charge a fee for their services.