

Bug of the Month

by Jim Revell

Mining Bees (or Miner Bees)

Class: Insecta (Insects)
Order: Hymenoptera
Family: Andrenidae (Mining Bees)

Betsy Brown, one of this year's Master Gardener trainees, dropped off samples of the Miner Bee that found their way to the VCE/BAMGA Help Desk.

There are a number of different types of bees referred to as "ground bees," the most common of which are known as Miner Bees. Other common names of the Miner Bee include Andrenid Bee, Solitary Bee, Burrowing Bee, and the Ground-nesting Bee.

Miner Bees are found across most of the Eastern U.S. from March until September. In our area, they generally emerge in or around May and are active for about eight weeks. In gardens throughout our region, due to the decline of our Honey Bees, the Miner Bees are proving to be a real asset as pollinators. They do not make or store honey.

Miner Bees live in the ground, with our Virginia red/orange clay being a particularly favorable soil type. Unlike many bees that congregate, forming a hive, Miner Bees create individual tunnels in the ground.



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In a garden or yard, hundreds of these tunnels may be present. During the day, when the bees are hovering over their territory, it can be an intimidating sight. The bees, however, are not aggressive and do not sting. If you so desire, you can walk through them and even mow the grass. One note, however, if caught or trapped in your clothing, they may bite.

Females build nests by softening the hard clay with regurgitated water, and removing clay particles with their mandibles. Most females build a single nest, but some may build two or three.

When the tunnel is about an inch in depth, the female begins to move clay pellets to the entrance and constructs an exterior chimney. Tunnels may average a depth of $4\frac{1}{2}$ inches, whereas chimneys will vary, sometimes reaching more than 3 inches in height. Five to eight cells may be built within the tunnels and lined with a clear fluid from a gland on the abdomen. The lining acts as reinforcement and water-proofing for the cell. Females collect pollen and add regurgitated nectar and abdominal fluid, forming a food mass that is reported to have a "cheesy" odor. Eggs are laid on this food mass, and the cell is capped with clay. About five days later, the eggs hatch.

After all the cells are completed, the tunnel is then sealed with a clay plug. The bees overwinter as pre-emergent adults in their individual cells. Females may live 4-6 weeks, with the lifespan of males only about 2-3 weeks. Interestingly, generally more males are produced than females.

Some of the flowers Miner Bees have been seen to visit include Asclepias, Delphinium, Iris, Monarda and Penstemon, among others. The Miner Bees cause no major damage though males may become a nuisance by gnawing on rose buds and flowers.

Controls are not needed. The Miner Bees are preyed upon by birds and certain flies and tiny wasps.

Jim Revell is a Bedford Extension Master Gardener Volunteer.
Read more of his articles on the "Jims Bugs" page @ www.BedfordMasterGardeners.org