

# VIRGINIA COOPERATIVE EXTENSION SERVICE

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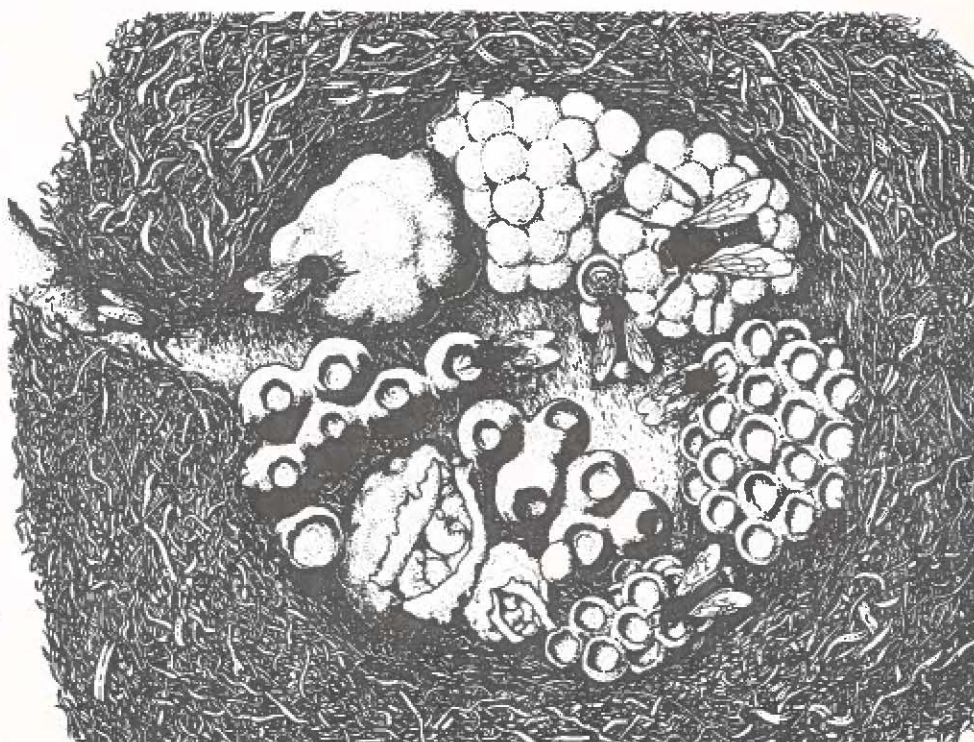
## INSECT NOTES

### BUMBLE BEES

Bumble bees are conspicuous insects in the spring. These large black and yellow bees are often heard buzzing and seen visiting flowers during the day. Although very large, they are not very aggressive and rarely sting humans. Unlike honey bees and wasps, the nests of bumble bees are rarely encountered.

The nest of the common bumble bee is a fascinating world in which 200 or more individuals engage in food gathering, caring for offspring, nest construction, and regulating the nest temperature and humidity.

Bumble colonies are annual. A colony is founded in the spring by its queen, and lasts for only one season. The colony dies out in the fall with the arrival of cold weather. The new queens survive the winter by hibernating in protected places. In the spring the new queens emerge and begin looking for potential nest sites. They fly low over the ground, stopping to crawl into small holes and opening. They often select abandoned field mouse burrows for nest sites. Once the site is selected the queen builds a wax and pollen "honey pot" and begins foraging for nectar.



*Colony of the bumblebee, *Bombus lapidarius* (from Wilson, 1971).*

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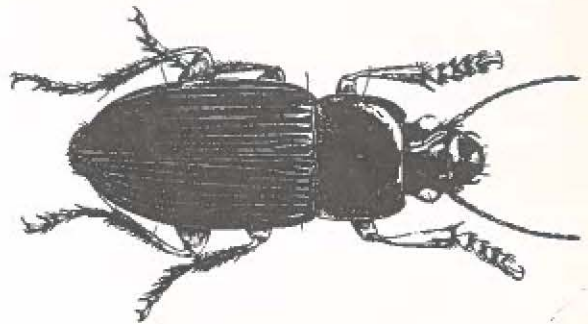
In a short time the queen will fill the honey pot with nectar, then she will lay her first brood of about 8 eggs. During the next few weeks the queen is alone in the nest, feeding on the stored nectar and also feeding her developing young. When she is not out foraging for more food, the queen sits on the clump of larvae in the nest--keeping them warm with her body. When the first brood emerges as worker bees, they take over the duties of foraging for food outside the nest. This allows the queen to remain in the nest, lay eggs, and care for the young.

In early June when the first brood emerges, the colony may contain only about 10 workers. By August a successful colony may have built up to 150 or more workers. In late summer the colony raises its first males and young queens. The males and females leave the nest, mate and the queens dig hibernation chambers in loose soil or decaying logs. They remain inactive throughout the winter. They emerge in the spring to start the cycle again.

**Control.** Bumble bees are beneficial insects--they pollinate such crops as red clover and blueberries. Yet their size is often frightening, and they may choose nesting sites around people's homes. Wooden storage sheds and small barns, which may also house a mouse population, are a favorite nesting site for bumble bees. Although they are quite docile when they are foraging at flowers, bumble bees will protect their nests from intruders. They have a very effective sting! If nests can not be avoided, and control is necessary, most garden insecticides will provide control. Remember that the nests are usually in the ground, so soaking the soil immediately around the nest should be sufficient. Nest control is best accomplished in the spring when colonies are small.

#### GROUND BEETLES

These beetles can be common around houses this time of year. They are often attracted to lights at night, or may be found crawling on patios and porches after dark. They are shiny black or blackish brown and are often mistaken for cockroaches! These beetles are predators on other insects, and the reason they come to lights is to locate prey. They don't infest houses, but will enter through ground-level doors. They rarely occur in large numbers, and control is best accomplished with an aerosol insecticide or a fly swatter.



#### HOPLIA BEETLES - STILL AN INFREQUENT TURF PEST

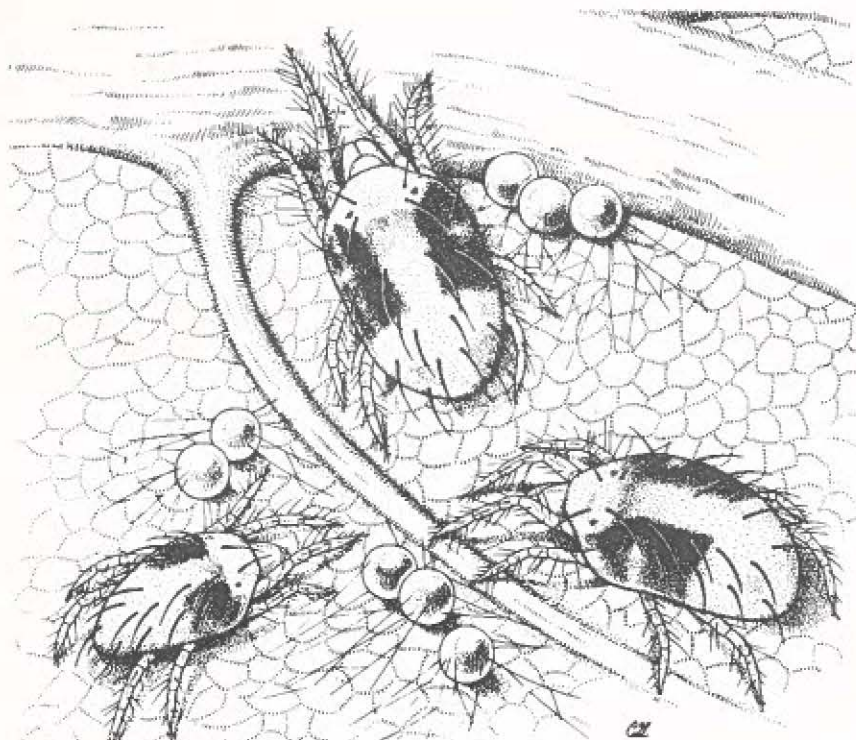
Beetles in the genus Hoplia commonly occur in several regions of Virginia in the spring. These small (1/4-1/2 inch) grayish-black beetles are related to other scarab beetle pests of turfgrass--such as the Japanese beetle, June beetles and the large green June beetle. Hoplia beetles emerge in the spring, frequently following a rain. Thousands of adults may emerge and "swarm" over the surface of the grass for a day or two. Just as quickly as they appeared--they disappear! The larvae of this beetle feed in the roots of grasses, and they have a life cycle similar to other scarab beetles. They may have a one-year life cycle, but populations seem to peak on a 2-3 year cycle.

**Control.** Chemical control for this pest should be aimed at the larval stages, and not

## MAY IS THE MONTH FOR MITES

May is the month for mites on conifers and broadleaved evergreens--if you missed April! (However, in southeastern Virginia, activity is 2-3 weeks earlier.) The *spruce mite* is a common and serious pest of conifers, especially hemlock, spruce, and arbor vitae, as well as juniper, fir, and pines. The *southern red mite* is especially severe on Japanese holly varieties, camellia, azalea, and pyracantha, but also attacks boxwood, causing stippled flecks on the foliage. All three overwinter as eggs on the foliage and twigs and are cool weather pests. They become active, feeding and reproducing, when plant growth resumes in the spring and again in the fall. Multiple generations usually have produced severe foliage damage. This is critical on plants that retain their foliage for two or more years.

Control is rather simple and effective if applied before severe damage occurs, that is in March, April, or by mid-May (depending on the plant zones). Although there is some mite activity in the summer for these species, they usually do not build up as rapidly as during cool spring and fall weather. Kelthane is available and is effective.



at the adults. Treat turf that may be infested with Hoplia beetle grubs just as you would treat for Japanese beetle grubs. Delay treating the turf for about two weeks to allow for the eggs to hatch and the grubs to begin feeding. When liquid insecticides are used, be certain to "water-in" after spraying the turf to insure that the insecticide will penetrate the thatch and reach the grub in the soil.



### BITING GNATS OR BLACK FLIES

Black flies (sometimes called buffalo gnats) are a species of biting fly that is common in the spring in many areas of Virginia. They are most often encountered as a "swarm" around the head of people and animals. The female gnat will often bite--leaving a swollen and painful welt. These bloodsucking flies can be a real nuisance for the 2-3 weeks they are actively flying.

The larvae of black flies are found in running water of shallow mountain creeks and streams. Some species breed in large rivers, and others in temporary streams. The adult females lay eggs in or near the water. The larvae remain in the water, attaching themselves to rocks, vegetation and other solid objects. The larvae feed on organic matter that is washed past them in the water.

Adult flies may migrate as much as 10 miles from their breeding sites in search of a blood meal. Some may be carried a great distance on the wind--so these biting flies can occur in locations that may be far from a fast flowing mountain stream! The adults are daytime fliers, and are rarely found indoors. Humans as well as domestic animals are attacked. The ears, eyes, nose, wrists and other exposed parts of the body are subject to attack.

**Control.** Controlling these flies is very difficult for the average homeowner. Mosquito repellents seem to work well, but must be applied regularly. These flies can be very numerous at times, and just having them fly around your head--even if they don't bite--can be bothersome. Insecticide treatment of local streams is very difficult, but there are some biological control materials that hold some promise. In the mean time--stay inside.

