

# Azalea Miner Bee: Good Things Come in Small Packages

By Carol Allen—Germantown, Maryland



Fig. 1 Azalea miner bee on azalea flower. Photo by Beatriz Moisset, CC BY-SA 4.0, via Wikimedia Commons.

The idea that many plants depend on a specific pollinator has probably reached the status of common knowledge. This concept has urged gardeners and even commercial garden businesses to include more native plants than non-native wherever possible. Plants with local-ecotype provenance are actively sought in many gardening circles. The purpose is to support as much of the local insect population as possible.

Azaleas, members of the genus *Rhododendron*, have been studied for their pollination associates. Based on observation, swallowtail butterflies and bumblebees have been seen as successful pollinators.

The methods of pollination are many, and with swallowtail butterflies on azaleas, there emerges an even more unique method: pollination by wing flapping. It seems that as the butterflies scramble over a truss of flowers, they pick up pollen on the edges of their wings and with further flapping, deposit it on the protruding stigma. Both azalea pollen and swallowtail wing scales have been found on the stigmatic surface of azaleas.

Bumblebees are well known for their “buzz” or sonication type of pollination. Certain plant groups, Ericaceae being one, have anthers that hold their pollen in tubes with a small pore at one end (poricidal anthers). This keeps the pollen from being knocked off, but requires a certain type of pollinator to release the pollen from the tubes. Blueberries and azaleas have poricidal anthers.

The buzzing activity of bumblebees shakes the pollen out of the tubes and onto their bodies, as well as the nearby stigmas.

Where does that leave the azalea miner bee (*Andrena cornelli*)? They work over each anther thoroughly. They collect large amounts of pollen in the long, widely spaced hairs on the tibia (middle segment) of the female bee’s hind leg.

Transfer of pollen from the scopal hairs to the azalea stigma is not generally observed, leaving some researchers to assume that the azalea miner bee is an inefficient pollinator. (See Figure 2.)

Azalea miner bees are medium-small bees with sparse hairs on the abdomen. (See Figure 1.) The body color is dark-brown to black. They are found in mixed woodlands, orchards, suburban, and urban settings.

Azalea miner bees have been observed on native azaleas and rhododendrons in the wild, as well as hybrid azaleas in gardens. This is one more good reason to retain those large, traditional azaleas in the landscape.

Like most miner bees, the females are solitary and

nest in bare, well-drained soil. The pollen is used to feed the young bees. Azalea miner bees are not aggressive and seldom sting. If your property is blessed with an area of nesting miner bees, allow them their two to four weeks of late spring activity.

Azalea miner bees are not abundant. The Global Biodiversity Information Facility (GBIF) lists 113 records with 28 occurrences supported with images. *Andrena cornelli* has been observed from Connecticut south to North Carolina. The Maryland Biodiversity Project holds 12 recorded sightings from nine counties throughout the state.

## About the Author

Carol Allen describes herself as a committable plant-a-holic. She has more than 25 years’ experience in the horticulture industry, with a special interest in plant pests and diseases; is a Licensed Pesticide Applicator in the state of Maryland; and is an ISA-Certified Arborist.



Fig. 2 Left: stamens, consisting of filaments and anthers. Most flowers release pollen by splitting the anthers along a line of weakness (top right); some only do it through a small hole or pore (bottom right). © Wikipedia Creative Commons.