



# CHOCOLATE MIDGE



Photo by Ashley Bradford



Photo by Tom Murray






**Other common names:** biting midges, "no-see-ums"

*Scientific family: Ceratopogonidae Genus: Forcipomyia*

**Description:** These tiny flies are only 1-3 millimeters long — about the size of a pinhead! Although they resemble miniature mosquitoes, they have distinctive feathery antennae. The chocolate midge is the only known pollinator of the cacao plant — the plant that produces the raw ingredient for chocolate!








## FUN FACTS



-  Chocolate starts off as seeds (also called beans) that develop in pods on cacao trees.
-  The botanical name of the tree, "Theobroma cacao," translates to "cacao, food of the gods."
-  Cacao trees cannot self-pollinate; they depend on chocolate midges for pollination.
-  As they travel from tree to tree in search of the flowers' sugary nectar, the midges inadvertently pick up pollen grains on their bodies and transport them to the next tree's flowers. Without these midges, we wouldn't have any chocolate!
-  Due to its small size, a single chocolate midge can barely carry enough pollen to fertilize a single flower!



## Cacao = the chocolate plant

-  Cacao flowers are small — just 1/2" in diameter. The intricate, downward-facing blooms grow directly on the trunk or branches of the tree.
-  Each flower opens for just 24-48 hours.
-  Only one out of every 400-500 cacao flowers produces a fruit, called a pod.
-  Each oblong pod is 8-14" long at maturity and contains approximately 50 beans.
-  Each cacao tree can produce 100-250 pods during its lifetime. However, only 10-30% of the pods on trees growing in plantations reach maturity for harvesting.
-  Approximately 8 pods (containing 400 beans) are required to make 1 pound of chocolate.
-  A single tree can only produce up to 9 lbs. of chocolate during its entire 25-year life!

## HABITAT

Chocolate midges are native to tropical rainforests. These important pollinators are found where cacao is grown in Central and South America, Africa, and Asia. Adult midges spend most of their time in shaded and damp spots such as crevices of roots, logs, stumps, and leaf debris, and this is where they lay their eggs. The open habitat of commercial cacao plantations offers less shade and lower humidity, making it less hospitable to the midges.



Photo by Tom Murray

Three midges rest on the eyes of a frog.

## HELP CHOCOLATE MIDGES THRIVE



Photo by Tom Murray

In their native habitat, cacao trees grow in the moist, shaded understory of the rainforest. However, most growers clear the large canopy trees to make room for more of the smaller cacao trees. This habitat disruption results in drier, sunnier conditions that are less favorable to the midges. It also reduces the overall biodiversity (variety of plants and animals) of the ecosystem.

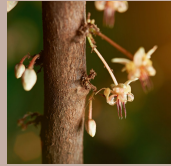
**Look for "Fairtrade," "Rainforest Alliance," "UTZ," or "Organic" certified chocolate that is grown by farmers who practice eco- and midge-friendly agriculture.**



# CHOCOLATE MIDGE



## The cacao plant



flowers



fruit



pod, halved



beans

