

## What is a harvester ant?

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The ancient Greeks thought certain ants planted seeds near their nests and let them sprout and grow to harvest their seeds in turn in the late summer. They did observe ants busy cutting down vegetation close to the entrances to their nests, so the idea was not without a foundation.

We have since found out that ants do not deliberately plant seeds nearby and harvest them later. What the Greeks saw was ants cutting down vegetation that sprouted uncomfortably near the entrance to particular colonies. Harvester ants actually derive their name from the fact that they harvest seeds, during foraging periods, to consume later. Most workers cannot chew these seeds although some species larvae can. The workers which forage, and those that store most of the seeds inside, crack and crush seeds for the larvae, and in the process obtain some nutrients for themselves.

Some of these uncracked seeds sprout underground if conditions are different from what the ants plan. One will see tunnelers and midden workers removing these sprouts to certain garbage heaps outside the nest, or middens, hence a further reason why even modern students have felt that the ants were harvesting something they had planted.

In summary, harvester ants in the narrowest sense are essentially granivores. They look for seeds on foraging trips and harvest them. Perhaps the foremost harvester is represented by the *Pogonomyrmex* genus. Curiously, *Pogonomyrmex* only exists in the new world, so the Greeks were observing other genera. Some people in the United State have the mistaken impression that all harvester ants belong to the *Pogonomyrmex* genus. While we encounter in the United States alone more than 22 recognized species of *Pogonomyrmex* (affectionately called “Pogos” by myrmecological behavioralists), in fact there are at least five genera besides Pogos, and a number of different species represented, amongst these insect scavengers. They include:

*Aphaenogaster*<sup>1</sup> *albisetosus* and *A. cockerelli*  
*Messor*<sup>2</sup> *pergandei*  
*Pheidole militicida*, *P. rhea*, *P. ridibula*, *P. xerophila*, etc.  
*Solenopsis geminata*

While the foregoing ants primarily harvest seeds in the sense we now understand, most will also take some other vegetable matter into their nests, as well as, dead, dying, and struggling insect prey. They have different methods of foraging such as along defined highways known as trunk trails, as in the case of *Pogonomyrmex rugosus*, or in a scattered fashion with each ant doing her own thing. Some even lie in wait and ambush or rob other species to obtain a considerable amount of what they bring home.

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<sup>1</sup> (= *Novomessor*)= old name, or synonymous name not ruled to be apropos.

<sup>2</sup> (= *Veromessor*)= old name

Other ants may also be considered harvester ants in the sense that they harvest vegetable matter or insects along with the odd seed. Perhaps the most famous of these are the leaf-cutting ants which do indeed harvest fungus to which they feed prodigious amounts of leaf cuttings. These include the Atta tribe or attines. In southern Arizona and New Mexico at least one species of this otherwise tropical ant has found a home in the Sonoran desert, the *Acromyrmex versicolor*. These rust-colored ants could be confused with the reddish pogos, except for one thing. *Acromyrmex* tends to forage somewhat in columns like the black *P. rugosus*. The rust colored Pogos mostly scavenge by fanning out almost immediately upon leaving the entrance to the colony. Also, *A. versicolor* is at the small end of the spectrum considering the length of harvester ants. An average size for a Pogo is about 7.0 mm with some routinely obtaining a 10-11 mm length. *A. versicolor* is usually in the 5.0 - 6.0 mm grouping. There are some smaller ferruginous red Pogos no bigger than this, perhaps in sympatry with *A. versicolor*, but a sure way to tell the difference, is to look at both under the microscope. While Pogos may have a couple of spines pointing backward from the dorsum of their epinotum, the attines are literally covered with spines, bumps and armaments resembling everything from horns to pimples--if one uses his imagination.

Weaver ants also might be deemed to be harvesters. However, for our purposes here, a harvester ant shall mean again, one which primarily forages for seeds.

A table follows, transcribed from Hölldobler's and Wilson's Pulitzer Prize-winning book, the Ants which illustrates by discoverer a bit more the types of habitats, and food and prey preferences of the Nearctic (Canada, Mexico and USA) harvester ants.

<u>Genus species</u>	<u>Geography, habitat, and prey</u>		<u>Authorities and Discoverers</u>
<i>Aphaenogaster cockerelli</i>	SW USA	“ (xeric habitats)	WM Wheeler
<i>A. albisetosus</i>		arthropod prey and corpses	“ “
<i>Messor</i> (= <i>Veromessor</i> ) <i>pergandei</i>	SW USA deserts = xeric habs.	obligatory granivores collect insect remains possibly not for food	Bernstein, Rissing, Wheeler
<i>Pheidole militicida</i>	SW USA (xeric)	Among important seed predators/gatherers	Creighton, Whitford
<i>P. rhea</i>	SW USA	“	WM Wheeler
<i>P. ridibula</i>	(xeric		Creighton
<i>P. xerophila</i> , etc.	habitats)		Brown
<i>Pogonomyrmex</i> (about 60 spp.)	Americas & Haiti (xeric)	Among most important seed predators/gatherers	Hölldobler, Hansen,Cole, Whitford
<i>Solenopsis geminata</i>	New World	Regular seed predators, but depend more on insect prey and honeydew	Jerdon Wilson Risch