

# Solana Center Composter

## Quarterly Newsletter

### Fall 2012

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#### Featured Article

Do you have white organisms in your worm bin? Curious about what they could be and how they are affecting your worms?

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#### Check out our new blog!

We are excited to announce the release of our new blog "Fresh Perspectives". This is a collaborative space where Solana Center staff and community members can share ideas, news, and personal stories on everything from sustainability to composting.

Click [here](#) to learn more.

## Compost: It's Alive!



The physical and chemical conditions in a compost heap seem logical if you think about what compost really is - a big pile of food for billions of minute organisms. These microorganisms have certain chemical requirements, primarily carbon for energy, nitrogen to build proteins, and oxygen for respiration. The most numerous organisms in a compost pile are bacteria and fungi. The best part is that they do not have to be added to compost, microorganisms will naturally exist!

In compost, fungi are important because they break down tough debris including cellulose. They can attack organic residues that are too dry, acidic, or low in nitrogen for bacterial decomposition. Bacteria are present virtually everywhere and enter the pile on every bit of organic matter. They also generate the heat associated with composting and perform the primary breakdown of organic materials...

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## Meet the Compost Critters

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## Upcoming Events

September 29 - Scrub the Scrub: Indian Head Canyon Cleanup

September 29 - Wild Willow Farm 5K and Chili Brewfest

October 6 - Composting Workshop at San Diego Zoo

October 6 - Composting Workshop at Fallbrook Community Center

October 27 - Sustain La Mesa Festival

November 3 - Manure Management Workshop at Pathfinder Farm

November 10 - Composting Workshop at Collier County Park

November 10 - Water Conservation Garden Fall Festival

November 17 - Composting Workshop at Water Conservation Garden

December 1 - Composting Workshop at San Diego Botanic Garden

Click [here](#) to learn more.

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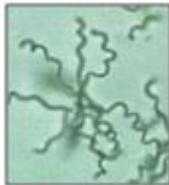
Thriving in our compost bins is a group of diverse, living organisms that work hard to break down organics. Meet some of the critters on our team!



### Mesophilic Bacteria

A mid-range bacteria found between 58-107°F. Mesophiles are highly efficient aerobes, as well as the primary source of bacterial decomposition in the compost pile.

Mesophiles are responsible for building heat to support thermophilic populations, and experience a spike in population and diversity as the pile cools and cures.



### Actinomycetes

Higher-form bacteria similar to fungi, these primary decomposers give compost its characteristically earthy smell. The majority of actinomycetes are aerobic and mesophilic, and highly-effective at breaking down

resistant materials (i.e. woody stems, bark, paper) through the use of specialized enzymes. As actinomycete populations develop in the compost pile, they inhibit the growth of other bacteria through the production of antibiotics. Actinomycete filaments or colonies may be visible in later stages of decomposition.



### Tardigrades

Tardigrades are microscopic, water-dwelling organisms that are fully grown at 1mm. The eight-legged animals are nicknamed waterbears, for their slow, clumsy movements similar to the lumbering of a bear.

Tardigrades subsist mainly on bacteria and plant matter, but some species predate on nematodes and rotifers. They are able to withstand incredible conditions, including extreme heat and cold, extreme pressure, very high levels of radiation, and nearly a decade of dehydration. Tardigrades can enter a state of cryptobiosis (can indefinitely suspend metabolic functioning to outlast inhospitable environmental circumstances) and are the first Earth animals known to survive in space.

**Shortage of "browns" in your bin? You probably have one of these materials in your home:**

Paper grocery bags  
Newspaper  
Tree bark  
Shredded paper  
Toilet paper rolls  
Paper towel rolls  
Brown lunch bags  
Cardboard  
Dryer lint  
Coffee filters  
Tea bags  
Natural fiber fabrics  
Cereal boxes  
Packaged food boxes  
Egg cartons  
Junk mail  
Food-soiled paper towels/napkins

Have more suggestions? We want to hear what "brown" solutions you have come up with! Click [here](#) to share your tips with the composting community on our blog.

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**Thank you to all of our volunteers! We would like to specifically acknowledge the following volunteers for their support:**

Deryl Adderson  
Nora Adderson  
Jill Albright  
Jose Amular



**Pseudoscorpions**

Pseudoscorpions are arachnids that look like miniature scorpions, but have no tails or stingers.

Pseudoscorpions locate prey using odors and vibrations, and hunt larvae and small invertebrates with the poison glands at the front of their claws. They are phoretic creatures- meaning they hitch rides on other animals to get around. There are 3,300 known species of pseudoscorpions, and their habitats range from the soil litter layer to caves, intertidal zones, tree hollows, inside human homes, and of course, compost piles!



**Millipedes**

Millipedes are arthropods with elongated, segmented bodies. Millipedes possess two pairs of legs per segment, and usually have a total of 40 to 400 legs. Many species coil into a tight spiral as a protective

mechanism. Pill millipedes are an exception; with short bodies that can roll into a sphere, they are sometimes mistaken for pill bugs. Millipedes are slow-moving creatures that primarily feed on decaying vegetation, but will eat the carcasses and excrement of other insects. Millipedes thrive in warm, damp environments, and are valuable contributors to compost mixing, aeration, and nutrient conversion.

[Read on...](#)

**Find the Decomposers in your Compost!**

Charles Anacker  
Marysa Andriola  
Coleman Baker  
Kelly Barnes  
Kerry Bauer  
Jim Beyster  
German Bezares  
Byron Bohnet  
Cathy Bohnet  
Simon Bye  
Terry Davis  
Paige Decino  
Whitney Dueñez  
Jim Farrell  
John Goodrich  
Carol Graham  
Diane Hazard  
Ann Hoepfner  
Nancy Korchick  
Colin Kruger  
Erin McConkey  
Carmen Murray  
Olivia Olmstead  
Caroline Olsen-Van Stone  
Todd Pyke  
Sajan Sanghvi  
Mike Shields  
Nathan Smedley  
Julie Thompson  
Wade Vernon  
Marianne West

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Curious about the critters in your own bin? Try this experiment to see what macroorganisms you can find.

Materials: A 2 or 3 liter soda bottle, wire mesh, bright light (flashlight), and a handful of fresh compost.

Directions: Cut the soda bottle in half and place the top of the bottle upside down inside the bottom portion of the bottle. Put a small piece of wire mesh over the soda cap hole to keep most of the compost from falling out of the soda bottle funnel. Put a handful (or two) of the finished compost into the funnel and shine a light into it. The organisms will try to escape the light and make their way down the funnel and into the bottom portion. Use the Decomposer ID Guide to identify each visible decomposing organism present in this sample.



## "HOT" Topics: Composting in a Mega City

With a population of over 8 million people, Mexico City is one of the largest cities in the world. And with so many residents, comes a whole lot of trash. Everyday the capital generates an estimated 12,600 tons of trash; 40% of this is organic waste. To complicate the situation further, in 2011 city officials were faced with the closure of the Bordo Peniente landfill as it reached its capacity. Realizing that long-term solutions needed to be found for the city's trash problem, city officials opened up the capital's first large-scale compost plant at the start of this year.

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Although the city's central marketplace has been composting since 2008, the new plant in Ciudad Nezahualcoyotl is the first to accept organic waste from city residents both through residential pick-up and public waste bins. Separate organic and inorganic containers can be seen throughout the city's parks, boulevards, and even airport (see photo above). Eventually when the compost that is being produced is up to farming quality, it will be sold to local agricultural producers. Until then, the compost is being used as fertilizer for parks, medians, and open spaces. If the project is successful, smaller landfills and compost plants will be opened in multiple neighborhoods throughout the city with the goal of reducing not only the capital's trash but the cost and pollution associated with its disposal.

For more information on the Mexico City compost plant, read Smart Planet's full article [here](#).

## **Volunteer Spotlight: Charles Anacker**



Despite never knowing his name, many of you have probably seen Charles Anacker around the community in one of his many projects or community groups. Whether he is turning the bins at Crestridge Ecological Reserve or teaching a composting workshop, Charles is the embodiment of

positivity.

He began his volunteer work after completing the Master Composter Course with Solana Center. Deciding to pursue his interest in gardening further, Charles attended the first series of Gardening 101, 201, and 301 courses. It was then that he decided to get more involved in gardening in his own community, and Charles is now an integral part of the La Mesa Community Gardens group. In addition to his work in La Mesa, Charles also manages the compost demonstration site at Crestridge Ecological Reserve and is one of our most popular compost workshop instructors.

On top of his composting credentials, Charles is a highly experienced and knowledgeable gardener. In July he graduated from the Master Gardener program and recently took a special course on permaculture design. He currently interns with Wild Willow Farm and is a member of the Master Gardener's Community Gardens Committee.

Charles is passionate about leading a healthy lifestyle: inside and out. He and his family are following a 99% LOVE raw food diet (Live, Organic, Vegetablearian, Energy) and are excited about trying new recipes and methods for enjoying the natural flavor of food. He is also a firm believer that an essential part of health is maintaining good social connections, and he credits the Solana Center with giving him the opportunity to "meet interesting people who also want to live in harmony with the environment rather than fight it."

For more information on how you can also take action in your community, click below or email Volunteer Coordinator, Dominique Navarro, at [dominique@solanacenter.org](mailto:dominique@solanacenter.org).

▶ Take Action

## Rotline: What are the white things in my worm bin?



You are likely to find many organisms other than worms in your worm bin! Like backyard composting, you will see a diverse, interdependent community of large and small organisms. They serve as food for each other, clean up each others' waste, convert materials to forms that other organisms can utilize, and control each others' populations. For us to arbitrarily decide who should live and who should die in this complex system is difficult, given that one could spend a lifetime studying the various creatures in a worm bin, trying to determine who eats whom and under what conditions.

So what are those tiny white things in my worm bin? Known commonly as white worms or pot worms, enchytraeids are small (one-fourth to one inch long), white, segmented worms. These creatures are often mistaken for newly hatched redworms because of their size. However, young redworms are a reddish

color because of their red blood. Although related to the larger earthworms...

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