

TUALATIN HILLS PARK & RECREATION DISTRICT

NATURE PARK INTERPRETIVE CENTER • 15655 S.W. Millikan Blvd. • Beaverton, Oregon 97006 • 503-644-5595 • Fax 503-641-7761

TO: Deb Scrivens, Jennifer Thompson
FROM: Bruce Barbarasch, Tualatin Hills Nature Park, Beaverton, OR
DATE: 11/6/02
RE: Bug Lab Grant Report, Grant #923603

Summary

Bug Lab, a component of Bug Fest was held on Saturday, August 24th 2002 from 12:30-4:30pm. It was a tremendous success. Approximately 500 people participated by catching invertebrates, using magnifiers to discover the life on the forest floor, and drawing their observations. Our event survey showed that a majority of visitors could describe an important role that bugs play in the environment and had positive attitude changes towards invertebrates! We also received excellent press coverage (attached).

Report Questions

1. "What happens to all the dead things in the forest? Why aren't you waist deep in fallen leaves when you take a walk in the fall? Step inside the Forest Recycling Center to find out what happens to forest waste..." read a sign greeting visitors as they entered the Bug Lab.

Once inside, people visited one of several activity stations such as a the FBI Center. Armed with spoons and magnifying glasses, they dug through large containers of forest leaf litter and decomposing logs in search of FBI agents: Fungus, Bacteria (a little hard to find!), and Invertebrates. Questions mounted on placards served as guides to help visitors make discoveries.

Other stations had microscopes and simple dichotomous keys to help people better understand some of the invertebrates they were seeing. A "Most Wanted" area was set up for people to hang up drawings they had made of creatures from the forest floor.

Volunteer staff were on hand to answer questions and to help visitors learn. They also showcased unusual finds on a microscope camera which connected to a television. This helped visitors to see things they might have missed on their own. Enlarged to about 12 inches, an active soldier fly pupae was much admired for its accordion-like movements.

The project was conceived and realized through a series of meeting of the "Bug-Men": Matthew Shepherd of the Xerces Society, Metro Parks and Greenspace's James Davis, and Bruce Barbarasch from the Tualatin Hills Nature Park. At each meeting we discussed the event, possible educational activities, and updated each other on new ideas and progress. Matthew created a "Litter Critter Guide"(see attached), Bruce researched and ordered supplies, and with the help of a volunteer rounded up rotting logs, forest leaf litter, and home compost, while James provided a great deal of practical advice and conceptual help.

On the day of the event, volunteers were given a basic training (and a teaching outline, also attached) about the Lab.



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2. Numbers, numbers, numbers...

Item	Numbers
Volunteer hours contributed	31.25
Number of visitors	approximately 500
Partners:	2 (Xerces Society, Metro Parks & Greenspaces)

3. Visitors exiting the Bug Lab were asked three questions:

- I. What did you learn?
- II. How are bugs important to our environment?
- III. Do you think differently about bugs now than you did before you attended the event? ** If so, how?

Question I received a wide variety of answers. Some of the most popular answers are listed below:

I learned,

- ▶ the difference between centipedes and millipedes.
- ▶ the importance of habitat for bugs.
- ▶ to identify bugs.
- ▶ about bees and wasps.

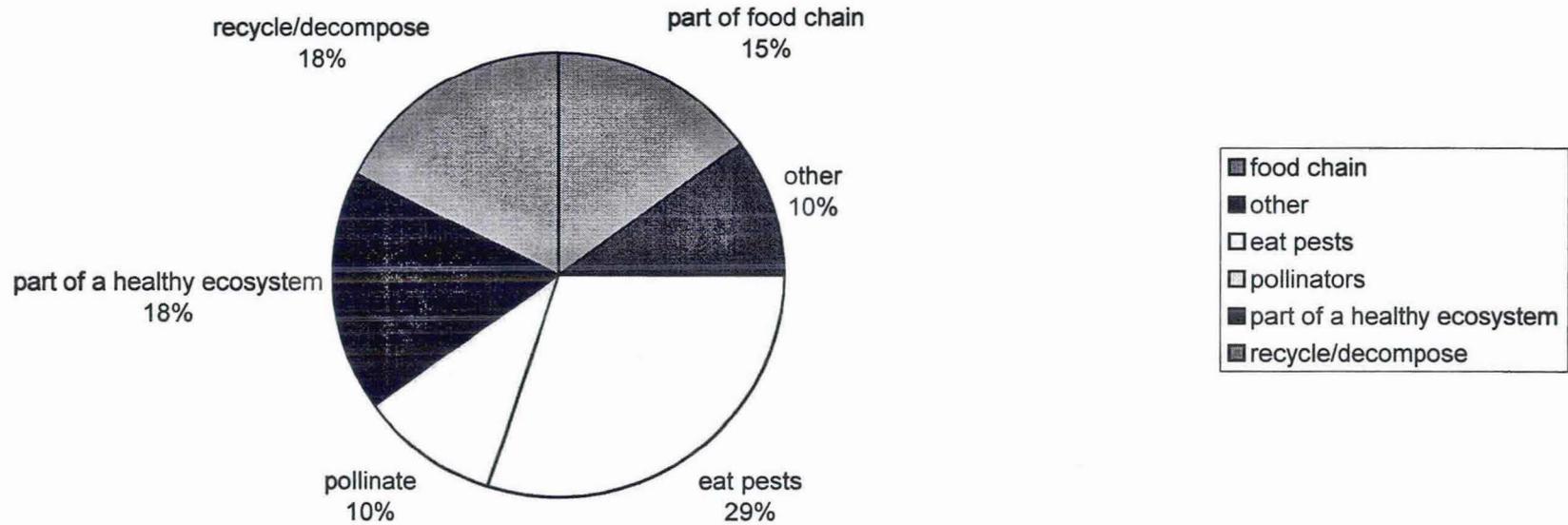
We found that the open ended nature of this question generated too wide an array of answers to be useful as an assessment tool. Questions II and III were far more informative. Their results are shown on the graphs which follow this page. Because of the positive attitudinal changes and the learning the survey measured, we believe that the Lab was highly successful.

6. The project does not require immediate follow up, however we plan on operating the Bug Lab at future events using the equipment we received as a result of the grant.

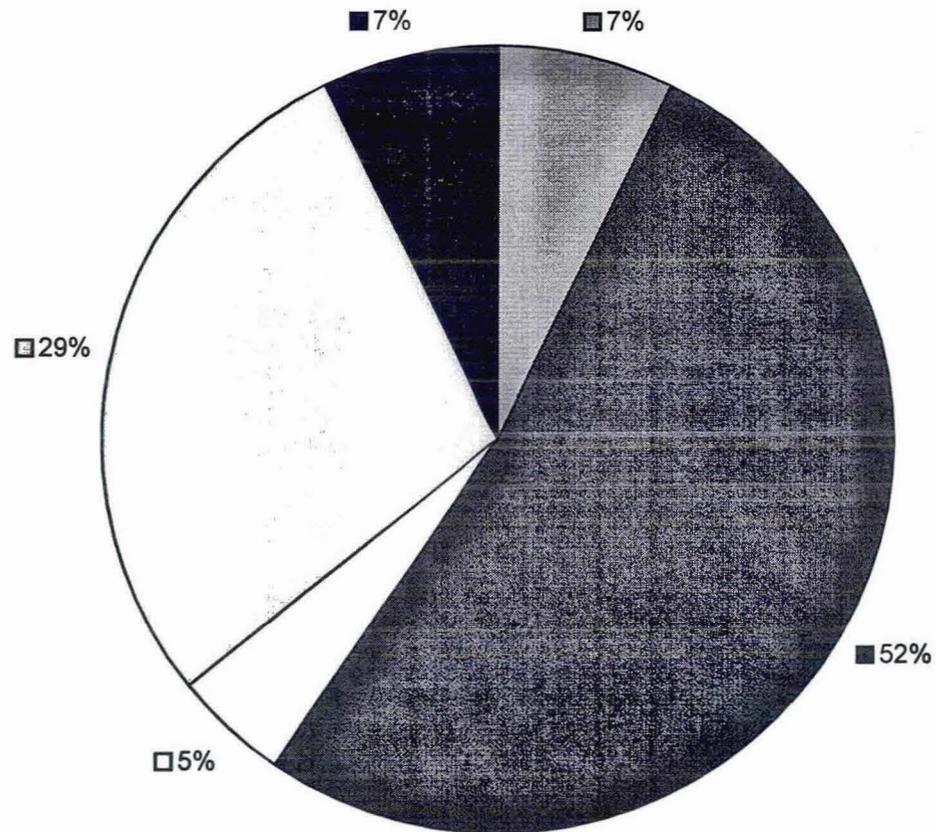
Attachments:

- Evaluation Graphs
- Photo documentation
- Forest Recycling Center teaching outline & Litter critter guide
- Event publicity
- Materials handed out at event

How are bugs important to our environment?



Do you think differently about bugs now? If so, how?

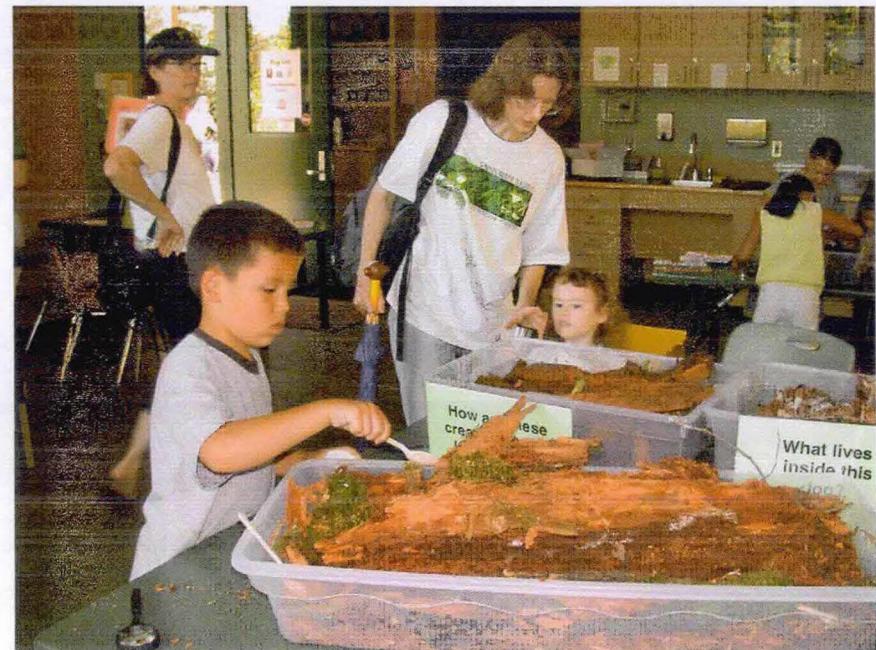


- I'm more willing to touch them.
- I already liked bugs.
- No, I didn't like bugs before, don't now.
- I expanded my knowledge, have more respect, or like bugs more.
- I'm not as afraid of bugs.



Visitors looked carefully through bins of "duff" or leaf litter from the forest floor. Because the forest floor was brought inside, visitors could learn about its inhabitants without damaging the forest itself.

Once a creature was found it could be captured with a spoon and petri dish and observed with magnifiers or microscopes. Volunteer staff served as guides to help people discover and understand the processes at work on the forest floor.





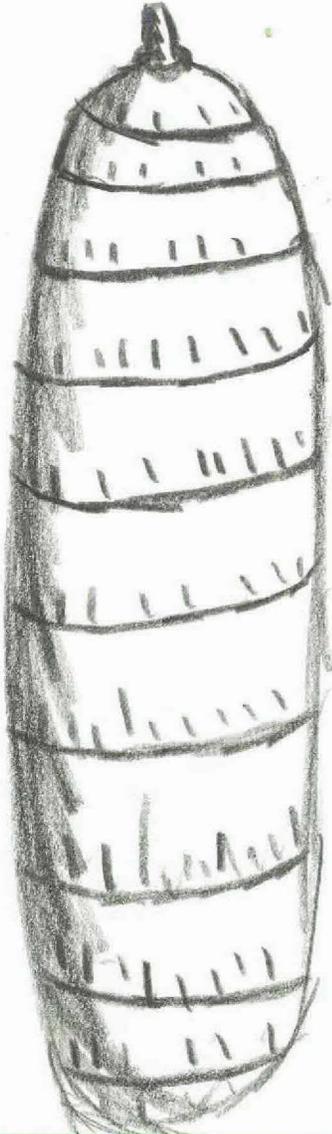
← Learners investigate the similarities between home composting and decomposition on the forest floor. Metro brochures on home composting and worm bins were available.

↓ People of all ages enjoyed using microscopes to investigate the “litter critters.”



Art work from our "Most Wanted" section of the Bug Lab.

KATY
ANN
WELGAN



Bug Lab- Grant #923603

Forest Recycling Center (all stations combined)

Goal: Little critters on the forest floor are important and cool!

Objective: The visitor will be able to describe the role forest litter invertebrates play in the turning “debris” into usable materials for themselves and other life forms.

SIGN AT ENTRY TABLE OR DOOR

“What happens to all the dead things in the forest? Why aren’t you waist deep in fallen leaves when you take a walk in the fall? Step inside the Forest Recycling Center to find out what happens to forest waste...”

Meet the Litter Critters: Bugs or Slugs?

Objective: The visitor will be able to identify the differences between major groups of invertebrates that live in the litter.

Description: A card will read “Who are the Litter Critters? Can you tell the difference between a millipede and a centipede? Or a bug and a beetle? Is a slug a bug?”

We’ll need a series of microscopes (four or five) set up with specimens to look at. We can also have banana slugs in a tank and magnifying glasses, as they are large enough to study. Live specimens would be best, although they can be harder to look at under a microscope.

Accompanying the microscopes would be some simple ID keys, e.g.,

How many legs does it have: none, six, eight, or lots?

If it has none, does it have a shell?

Shell = snail.

No shell = slug.

If it has six legs, it’s an insect.

If it has eight legs, how many body parts does it have?

One = harvest man

Two = spider

If it has lots of legs, is it long and squirmy or short and stout?

Long and squirmy = centipede or millipede

Short and stout = woodlouse or pill bug

This would be illustrated by pictures and accompanied by simple info sheets giving more details on slugs, snails, spiders, centipedes, etc. I picture them to be really straightforward and visual, pulled together with images off the Internet or from your clip art program. The info sheets can briefly say what the critters eat and how they fit into the recycling program.

Materials: microscopes (5 max.), ID cards, info sheets, binder rings, specimens in dishes (live preferred), instruction signs

One thing to consider for each station where there will be microscopes is that many children (and adults) don’t know how to operate one. We should either have instructions or a volunteer to assist.

Most Wanted Critters

People will draw what they have seen and then hang them on the wall to make a "Wanted: The Litter Critter Gang" rogues' gallery display

SIGN: Draw a picture of some of the creatures you found in the forest litter and pin it to our bulletin board.

Materials: tub of critters, magnifiers, petri dishes, paper, colored pencils, thumb tacks.

Can you find the FBI Agents?

Objective: The visitor will be able to describe two forest litter critters.

Description: Visitors will gather around a table with several long, shallow containers (like those under-the-bed Rubbermaid storage units).

"The reason that leaves and other dead forest life doesn't form a mountain is that FBI Agents are at work everywhere. FBI stands for fungus, bacteria, invertebrates. Fungus and bacteria do most of the work to break down or 'recycle' dead plants and animals. Invertebrates like slugs, bugs, and worms are also important and easy to see. They eat dead and decaying matter in the forest, which prevents it from piling up."

Here we'd have some prepared slides of bacteria (if possible) as well as some with fungus and several small invertebrates that might be difficult to for visitors to find on their own.

I had imagined red recycling bins, like we have at home, and a wheelie bin for the non-recyclable trash.

Each container will have a different layer of material in it such as a rotting log or decomposing leaves. Vertical plastic holders will display simple questions and statements like, "Use the tools to discover the hidden life of the forest floor." "What lives inside this log?" "How are these creatures in the log similar to those in the leaves?" "What body parts do these creatures have to help them survive here?"

It would be good to have labeled drawings or specimens of animals that play different roles: predators (beetles, centipedes) decomposers/scavengers (other beetles, ants, termites) that people could use to get an idea of what "type" of critter they're finding when they dig through the containers.

This will also be the place for the video microscope

Materials: tweezers, petri dishes, magnifiers, microscopes, instructional cards, plastic tubs, sign holders, plastic spoons, video microscope, home composting information.

SIGN:

The Litter Critters can also do great things in your yard. A home composting system is a lot like the forest floor. Take some information and try it for yourself.

Which critter is it?

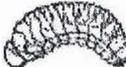
Follow the questions on this key to find out what you are looking at, and then look in the following pages to find out more about the critter.

⇒ How many legs does it have: **none, six, eight, or lots?**

* If it has **none**, does it have a shell?

Yes = *snail*..... 

No: body has rings: long and squirmy = *worm*..... 

short, with pale body = *insect larva*..... 

body is smooth = *slug* 

* If it has **six** legs, does it have "tails"?

Yes: one (folded under body) = *springtail*..... 

two = *two-tailed bristletail*..... 

three = *bristletail*..... 

pincer on rear end = *earwig*..... 

No: soft, pale-colored body = *termite*..... 

hard, dark-colored body: with obvious waist = *ant*..... 

no waist = *beetle*..... 

* If it has **eight** legs, how many body parts does it have?

One: big, with very long slender legs = *harvestman*..... 

tiny, with claws = *psuedoscorpion*..... 

tiny (often red or white) = *mite*..... 

Two = *spider*..... 

* If it has **lots** of legs, is it long and squirmy?

Yes: two legs on each body segment = *centipede*..... 

four legs on each body segment = *millipede*..... 

No = *woodlouse or pill bug*..... 

Litter Critter Guide

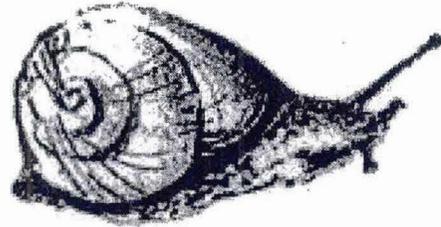
The following pages will give you some more information on each of the creatures listed in the identification key. The key and this guide do not cover all the invertebrates that live in the forest litter and soil. This is just an introduction to the amazing world that exists beneath your feet. Without the Litter Critters, our world would fill up with dead vegetation that will not rot away.

Snail

Like slugs, snails leave a trail of silvery slime and prefer cool, moist conditions. They also share other similar body parts. Their mouth has a radula, shaped like a metal file, with which they scrape the surface of plants to feed. They have four tentacles on their head. The upper two have simple “eyes” that can sense light and dark, and lower two are used to feel the ground ahead of them.

Snails are highly edible, and are enjoyed by both birds and people. (People are selective, eating only a couple of species.)

<u>Phylum</u>	Mollusca
<u>Class</u>	Gastropoda
<u>Order</u>	Stylommatophora

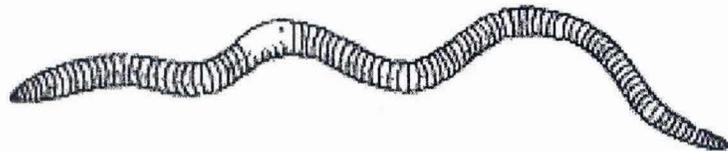


Worm

The worm most commonly seen in Oregon is probably the night crawler of European origins. Oregon has its own giant earthworm, up to 30” long and as fat as a man’s thumb. Sadly, it may have disappeared and now be extinct.

Although widely recognized as a beneficial creature because they improve the soil (Charles Darwin called them “ploughmen”), the most common worms are not native. In forested areas, these worms may consume leaf litter and other organic debris far faster than it naturally rots, removing an important source of plant nutrition from the ecosystem.

<u>Phylum</u>	Annelida
<u>Class</u>	Oligochaeta
<u>Order</u>	Opisthopora

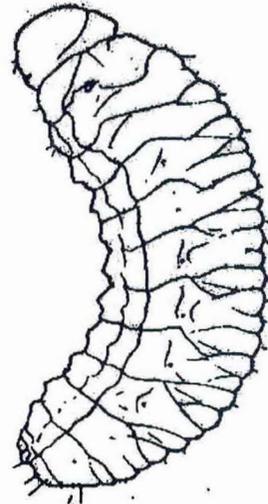


Insect larva

Baby beetles look nothing like their parents. A baby beetle (larva) is a squishy little grub, with a whitish body and a dark-colored head. They usually have large, powerful jaws, as they eat their way through the wood. Many different types of beetles lay their eggs in rotting wood. After they hatch, the larvae munch their way through the wood, making tunnels and helping to turn the dead wood into soil.

The largest beetle larva in the Willamette Valley are about four inches long. They are of the longhorn beetles.

There are other insects whose larva live in soil, such as craneflies. Some of these eat rotting plant and leaf litter, others the roots of living plants.

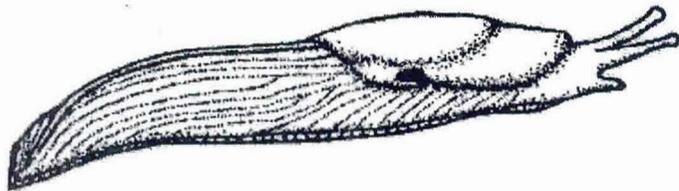


Slug

Slugs differ from land snails only in not having a hard shell. They do have a mantle, a fleshy area that covers the front of their bodies. In other gastropods, the mantle secretes materials for making shells, but not in slugs. The disadvantage of this is that slugs don't have a shell to hide in. The advantage is that they can squeeze through tiny cracks to escape or hide.

In this region, the most magnificent slug is the banana slug, green with black splotches and up to 8" long. Our native slugs are confined to natural areas. All the slugs found in gardens are foreign species that have arrived in the U.S. over the past couple of centuries.

<u>Phylum</u>	Mollusca
<u>Class</u>	Gastropoda
<u>Order</u>	Stylommatophora



Springtail

Tiny creatures, springtails are generally overlooked, apart from the leaping that gave them their name. At the rear of their body they have a forked tail that is usually tucked under the body. When disturbed they can use this to jump into the air, which either startles the attacker or lands them somewhere safe. The other feature that makes them distinctive to insect enthusiasts is that they have fewer segments in the abdomen (the rear section of the body) than other insects. Springtails have six abdominal segments, all other adult insects have eleven. (Exciting, huh?)

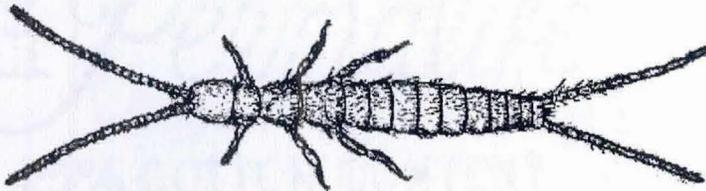
<u>Phylum</u>	Arthropoda
<u>Class</u>	Insecta
<u>Order</u>	Collembola



Two-tailed bristletail

Long and slender, with two tails, these bristletails are easy to identify. Most feed on decaying vegetation but some species are predators of even smaller invertebrates. They have adapted to their life in soil and leaf litter by losing their eyes, relying on sensitive feelers (antennae) to search their way through the forest litter.

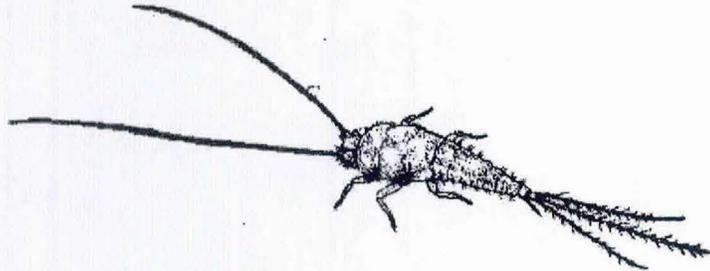
<u>Phylum</u>	Arthropoda
<u>Class</u>	Insecta
<u>Order</u>	Diplura



Bristletail

Of the many types of bristletail, two are most frequently noticed by people, silverfish and firebrats. Silverfish are abundant in houses—they prefer clean houses, so they are not a sign of grime—and firebrats like warm places, so are often seen while camping, as they gather by the firepit. In the forest, bristletails live in leaf litter, ant nests, and similar damp places.

<u>Phylum</u>	Arthropoda
<u>Class</u>	Insecta
<u>Order</u>	Thysanura

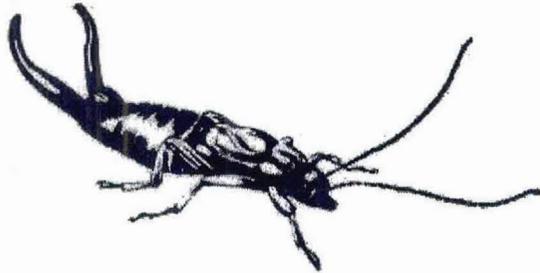


Earwig

It used to be thought that earwigs would crawl into your ears while you slept and bite your eardrums! This, of course, isn't true, but they are generally nighttime creatures. During the day they hide under stones or in leaf litter. At night they scavenge for food, eating dead animals or plants.

The fearsome-looking pincers are harmless to us. Earwigs use them for wrestling between males and to scare predators away.

Phylum Arthropoda
Class Insecta
Order Dermaptera

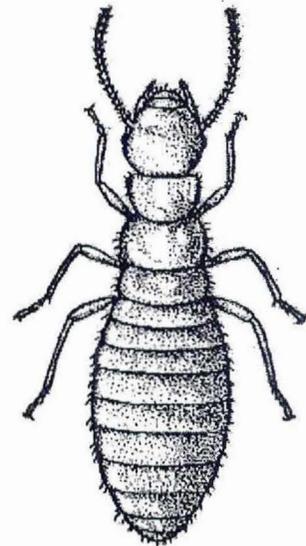


Termite

Termites are social insects, living in large colonies. The colonies have both a king and a queen, tended by workers and protected by soldiers. The colonies are made in dead trees or stumps, and in houses. They eat the wood and digest it with the help of microscopic, single-cell protozoa that live in their stomachs.

During spring and fall, some termites will swarm away from the colony to found a new nest. They do this by flying. After landing on a new stump, their wings fall off as they crawl into the wood. Look carefully at stumps and you can find the discarded wings.

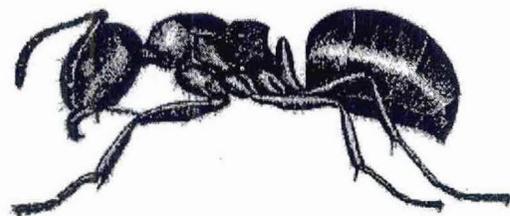
Phylum Arthropoda
Class Insecta



Ant

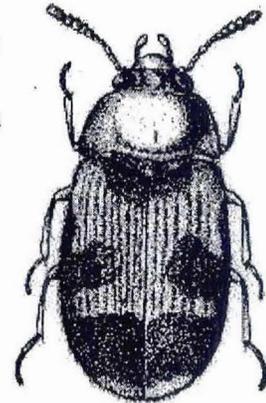
Ants are found everywhere. They are an amazing successful group of insects, and can feed to a wide range of things. Some are meat eaters only, some vegetarian, and some will eat anything. They live in colonies, often underground but also inside rotting logs and stumps, lead by a queen, with workers and soldiers. They will fly to mate and disperse to new nesting sites.

Phylum Arthropoda
Class Insecta
Order Hymenoptera



Beetle

Beetles form the largest group (order) of insects, with more than 28,000 species in North America alone. The largest are over 1" long and the smallest less than 1/50". They come in an amazing range of colors, from black through most of the rainbow, including metallic colors. The golden buprestid beetle is a fabulous dark green with shimmering golden highlights, and is found in the Nature Park. It's larvae feed on rotting wood. With such a range of beetles, it's not surprising they feed on all sorts of food, from fungi, to rotting wood, to other insects.

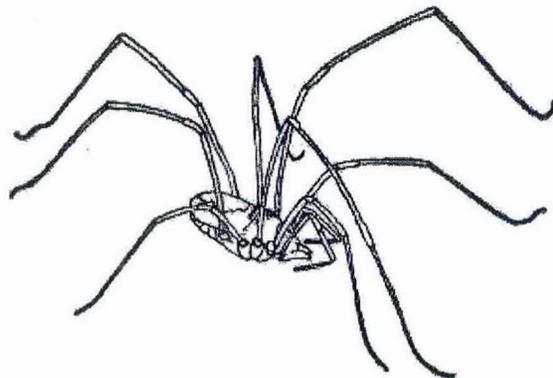


<u>Phylum</u>	Arthropoda
<u>Class</u>	Insecta
<u>Order</u>	Coleoptera

Harvestman

At a glance, harvestman can be confused with spiders, but a closer look will reveal that they only have one body part (spiders have two). Harvestmen are hunters, their long legs make it easier to walk over uneven leaf litter or twigs. When complete, they have eight legs, but are often seen with less. Their legs easily break at the joints and will fall off when grabbed by a predator, such as a bird.

They are most obvious in the late summer, around the time of the harvest. At this time, the adults are mature and most active looking for mates. They are mostly out at night. Take a flashlight into your garden after dark and make a safari across your lawn or flower borders.

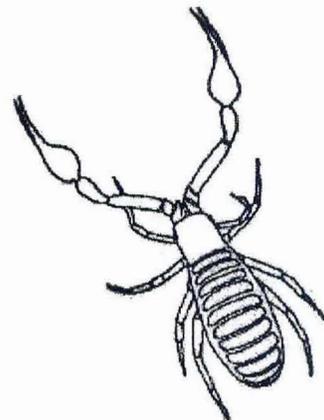


<u>Phylum</u>	Arthropoda
<u>Class</u>	Arachnida
<u>Order</u>	Opiliones (or Phalangida)

Pseudoscorpion

Pseudoscorpions are tiny (about 1/4") predators of other insects. They live in leaf litter, under moss on trees or rocks, in bird nests, or other secluded hideaways. They are even known to live in buildings, among books where they feed on booklice!

Their claws are poisonous, which enables them to kill and eat insects larger than themselves. They are not dangerous to people.

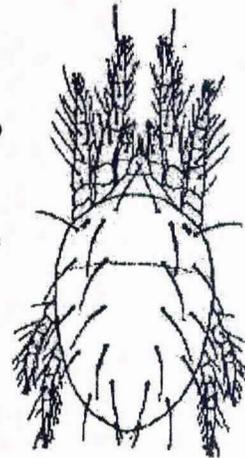


<u>Phylum</u>	Arthropoda
<u>Class</u>	Arachnida
<u>Order</u>	Pseudoscorpiones

Mite

Mites are usually thought of as parasites, feeding on other animals. Or they are pests on house plants or crops. Some are beneficial to people, as they are pests of pests, helping to control the unwanted insects. They are even added to some cheeses to give them their characteristic taste or appearance. (It's not the mites directly that do this, but the mold they carry.) However, many are free-living, feeding on plant debris or other dead materials in the soil. There are probably more mites in the forest litter and soil than all the other creatures put together!

Phylum Arthropoda
Class Arachnida

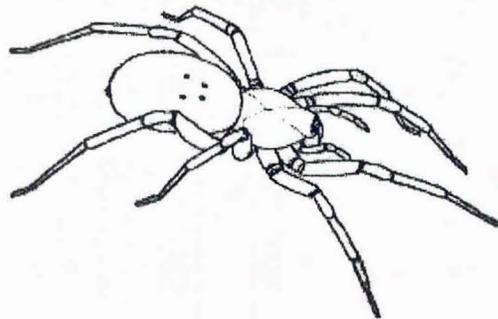


Spider

The archetypal creepy-crawly and star of horror movies and nightmares, spiders are amazing creatures and important pest controllers. They come in many different colors and sizes, but all have eight legs. Some have six eyes but most have eight. The typical spider creates a circular, sticky web to trap flying insects, but webs are shaped to fit the space.

Some spiders don't make webs, but hunt by eyesight. Jumping spiders leap from leaves onto prey. Crab spiders lie in wait, changing their color to match the surroundings.

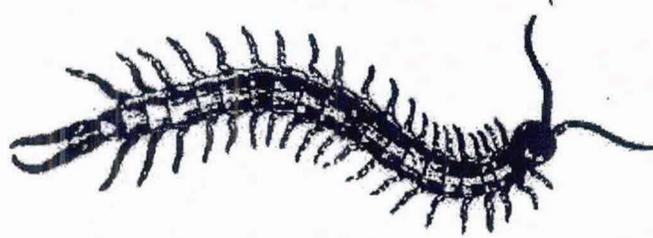
Phylum Arthropoda
Class Arachnida
Order Araneae



Centipede

Centipedes are predators, hunting and eating insects and other invertebrates that live in the soil. They have a flattened body and are very bendy so they can easily move through the leaf litter and top few inches of soil. Look carefully and you'll see that they only have two legs (one pair) of legs on each body segment. The pair of legs at the tail have been modified and are used as feelers—how else can they know what's happening behind them when their head is so far away, and rummaging around the forest litter?

They have poison claws by their head, but none of the local centipedes are dangerous to people. They have enough poison to kill small insects and other invertebrates so they can eat them. (In some tropical areas there are centipedes up to 12 inches long that will bite people!)



Phylum Arthropoda
Class Chilopoda

Millipede

Millipedes are often confused with centipedes, as they look similar. A close look will reveal the differences. Millipedes have four legs (two pairs) on each body segment and usually have shorter legs. Centipedes only have one pair of legs per segment. Most millipedes are long enough to coil up, but some are short and can curl into a ball (pill bugs). Millipedes eat dead leaves and other bits of plants. They can bulldoze their way through leaf litter to find the tasty bits. They don't actually have 1,000 legs. Most have about 100. The record is more than 750 legs.

Many types use chemicals as defense. They cannot squirt chemicals, but if you are rough with one (don't try it here!), the millipede may leave a small patch of fluid on your hand. This tastes nasty and will stop a bird from eating the millipede.

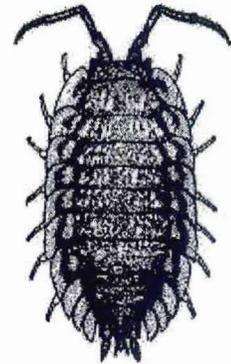
Phylum Arthropoda
Class Diplopoda
Order (Many different orders)



Woodlouse

Woodlice, believe it or not, are related to crabs, lobsters, and crayfish. Although land-living, these small crustaceans still need damp places to live, so are found in leaf litter, under moss, and in similar spots. They feed on decaying plants. They can be separated from the very similar pillbugs by counting the legs. Woodlice have only seven pairs of legs (14 in total), pillbugs have many more. Also, woodlice appear flatter than pillbugs.

<u>Phylum</u>	Arthropoda
<u>Class</u>	Malacostraca
<u>Order</u>	Isopoda



The Oregonian, Wa. County Metro, 8/22/02



MARY BONDAROWICZ/THE OREGONIAN

Looking for beetles and other participants for Bug Fest are (from left) Matthew Shepherd of the Xerces Society, James Davis of Metro, and Bruce Barbarasch, program coordinator at the Tualatin Hills Nature Park.

Bug Fest takes a dirty look at nature

Participants can get up close to beetles and slugs at the Tualatin Hills Nature Park on Saturday

By POLLY CAMPBELL
SPECIAL TO THE OREGONIAN

BEAVERTON — Beetles and banana slugs are Oregon's original recyclers.

Slugs, which can grow to 8 inches long, and thousands of varieties of beetles thrive in and on Oregon's soils and forests.

Their voracious appetites, in turn, keep forests thriving. They often feed on dead plant matter or animals and other forest debris. They recycle it back to the land through their waste, said Bruce Barbarasch, program coordinator at the Tualatin Hills Nature Park in Beaverton.

The process is essential to the health of a forest, as visitors can learn Saturday during Bug Fest.

Sponsored by the Tualatin Hills Park and Recreation District, the

BUG FEST 2002

What: View microscopic pond dwellers, study forest recyclers, touch bugs brought from the Oregon Zoo, and take part in crafts, games and other activities sponsored by the Tualatin Hills Nature Park, Metro and the Xerces Society.

When: 12:30 to 4:30 p.m. Saturday

Where: Tualatin Hills Nature Park, 15655 S.W. Millikan Blvd., Beaverton

Cost: \$1 a person, includes all activities

Information: 503-644-5595

Xerces Society and Metro, the event is designed to show off the critters that most people rarely notice and even try to avoid.

Visitors Saturday can look through a microscope to see the smallest insects that dwell in ponds and streams, study spiders and their varieties of webs, and view millipedes, butterflies and

beetles, the most diverse order of insects.

More than 28,000 beetle species live in North America alone, said Matthew Shepherd, programs director at the Xerces Society, a nonprofit organization dedicated to the preservation of invertebrates.

More than 290,000 beetles are found worldwide. Some have ornate markings or a purplish sheen; others are so small they can't be seen without a microscope. Some are predatory, eating other insects, while others eat the rotting debris.

This kind of information usually piques people's interest and makes them reconsider the importance of insects in our ecosystem, Barbarasch said.

"I think people are really curious about bugs," he said. "I think they want to know more, and they are surprised that bugs are more interesting than scary."

Last year, more than 600 people, hundreds more than expected, attended the inaugural event. This year, Bug Fest has expanded to in-

clude more hands-on activities, Barbarasch said.

Children can touch some of the more unique invertebrates provided by the Oregon Zoo, play games, create butterfly glasses and other crafts, and view bugs in a lab made possible by a grant from Metro and the U.S. Fish and Wildlife Service.

These kinds of activities help people develop more of an appreciation for the environment, said Sandy Thornton, a nature park volunteer. The result is that people are more likely to preserve and protect all creatures.

But before folks can observe the bugs, Barbarasch catches them. This week, Barbarasch and others are burying plastic cups, leaving their openings flush with the forest floor.

When unsuspecting beetles come along, they stumble in and are unable to climb out. After the event all the bugs will be returned to the forest.

"We're all about catch-and-release here," Barbarasch said.



WILD THINGS

Bill Monroe

Bugs catch a break

A festival celebrates heroes of our planet

HERE'S ONE TO try at home.

Out in the yard, tie up a maze of rope strands cross-connected at close intervals and suspend it off the ground.

Blindfold someone, anyone, and place him in the middle. Assign someone else to pick his way through all the rope from one end to the other without either touching the line or alerting the blindfolded person.

The loser gets to be dinner, or at least that's how it works in the world of spiders.

Even better, go get blindfolded on a pre-built web at the second annual Bug Fest.

For \$1 admission, you'll be amazed at what you'll learn about the little-known world of the earth's most numerous creatures.

"Bug Fest is a celebration of the amazing critters that keep our environment healthy," says Bruce Barbarasch, Tualatin Hills Nature Park's program coordinator. "All those beetles, butterflies, bees, slugs and spiders that help recycle fallen trees, pollinate flowers and even get eaten by larger animals are the real heroes of our planet."

He's so unabashed about his feelings for invertebrates that he doesn't open one of his windows at home unless he's sure that the trap-door spider web built on the sill will resume its shape when closed.

Barbarasch says the park's staff was amazed to see so many interested people at last year's first, mostly unadvertised, event.

"This is a celebration of all the little things that help the world go around," he says. "We tend to squish them and stuff, but there are things to learn about pests. Try not to look at them as pesky or bad. They all do something, and even if it bugs you a little bit, it still has a purpose."

BUG FEST

When: 12:30-4:30 p.m. Saturday

Where: Tualatin Hills Nature Park in Beaverton, a 220-acre nature reserve at the confluence of Cedar Mill and Beaverton creeks, 15655 S.W. Millikan Blvd.

Cost: \$1

Details: Bruce Barbarasch, 503-644-5596

Cosponsored by Metro, the U.S. Fish and Wildlife Service and the Portland-based Xerces Society, an insect conservation and education group, Bug Fest offers something for everyone:

A bug laboratory, investigate life among the leaf litter on the forest floor and the role invertebrates play in forest recycling.

◆ **An exhibit on aquatic bugs and pond life.**

◆ **Name that bug.** Find a bug you can't figure out? Bring it in and have it identified. Last year's most interesting was a 3-inch-long boring beetle that most staffers had never seen.

◆ **Insect games.** Try the spider web.

◆ **Catch-and-release.** They supply the nets, you catch the bug, butterfly or moth and then release it after getting a few tips about what it is and does.

The Xerces Society and the Oregon State University Extension Service also will have exhibits and booths with plenty of experts to answer questions and test your curiosity about beneficial insects.

Oh, and about being the blindfolded "spider" ...

Winners don't get to eat the losers. ◆

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Fun Stuff for the Whole Gang

Cheap Thrills

Bug Fest

and activities abound at Tualatin Hills Nature Park this weekend during the annual "Bug Fest."

from bug-friendly organizations are on hand to help identify species and answer questions. Also make a craft and touch some of the bugs from the Oregon Zoo's traveling insect zoo.

Tualatin Hills Nature Park Interpretive Center is a 219-acre wildlife preserve with paved trails and an interpretive center. Fest hours: 12:30-4:30 p.m. Sat. daily. Tualatin Hills Nature Park, 15655 S.W. Millikan Blvd., Beaverton. Admission: \$1 per person. Details: 503-644-5596. The festival is cosponsored by the Xerces Society.

Family Fun