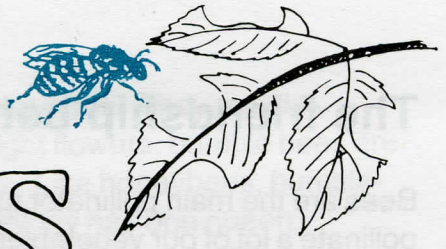
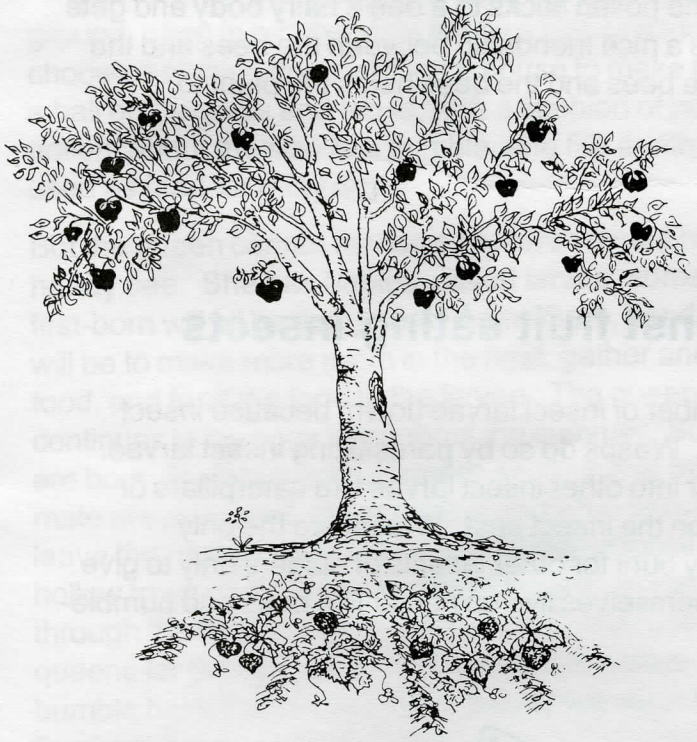
NATURE DETECTIVES



Summer 2000

Pull Out and Save

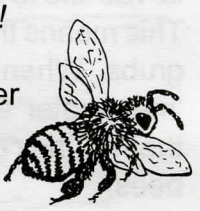
The Buzz About Bees



"Bumble Rumble"

A bee just stung me and it hurts!
Pain keeps coming on in spurts.
It left its stinger hanging there
Now will it die? It's hard to care!
Should I feel sorry for a bee?
Who left its stinger stuck in me?
Bees are useful?? Don't be funny.
Ban the bees, I'll give up honey!

by Grandpa Tucker



HONEY BEE

Being stung by a honey bee would be the most impressive encounter for most of us. But ... If it wasn't for the honey, some of us might think we could live without the honey bees. But it's not only the honey that sweetens our lives through the busy work of bees. Or would you like to do without apples and pears, strawberries and raspberries, tomatoes and cucumbers and many, many more fruits and vegetables? If it wasn't for the 10,000 different species of bees, including the well known honey bee, our daily plate would be less variable.

Some interesting facts

Honey bees belong to the order Hymenoptera (pronounced: hi-men-optera). There are three groups in this order: bees, wasps and ants. In all three groups there are social groups. That means that they work together in a colony. But a lot of bee and wasp species do not work together as a group. They are called solitary. In this issue we are going to talk about solitary bees and wasps and the bumblebee. The bumble bee is solitary in the spring but social for the rest of the year. All Hymenoptera develop from an egg into a larvae, then they pupate and emerge as an adult.

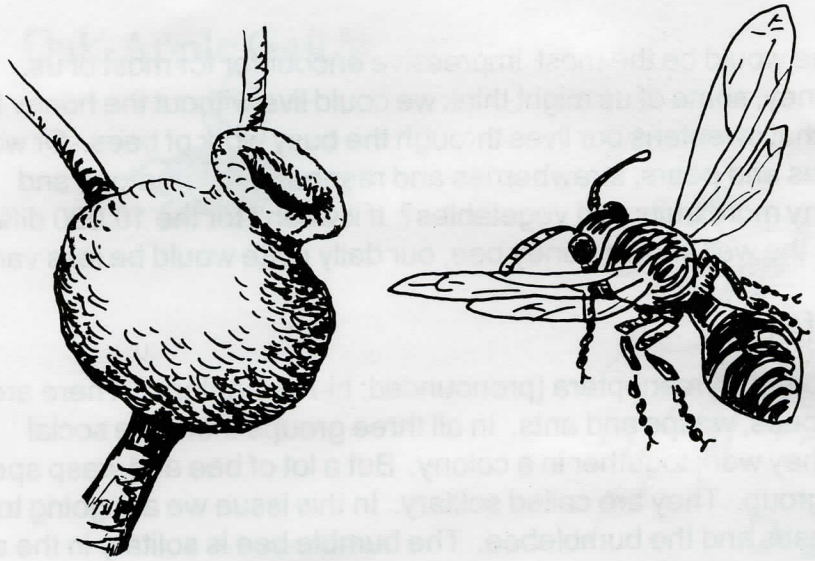
The friendship between bees and flowers

BEE WITH POLLEN

Bees are the main pollinator for fruit trees and berries. They also pollinate a lot of our vegetables. Think of Halloween without pumpkins! Pollination is the process of bringing the pollen from one flower to another flower so that the fruit can develop. The fruit is the delicious wrap around the seeds. And the seeds are the beginning of a new plant. The bees visit the flowers to collect nectar and pollen. They need the nectar for themselves as food and they collect the nectar and pollen for their offspring. By doing so, a lot of the pollen sticks to a bee's hairy body and gets transported to the next flower she visits. This is a nice friendship between the bees and the flowers. The plant offers the sweet nectar to the bees and the bees helps the plant to reproduce.

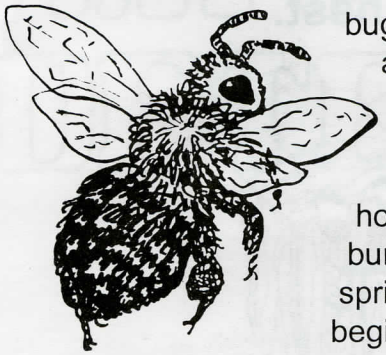
Wasps protect our fruit against fruit eating insects

Many wasps are important for keeping the number of insect larvae down, because insect larvae like to feed on our fruits and vegetables. Wasps do so by parasitizing insect larvae. This means they put their own eggs near, on, or into other insect larvae like caterpillars or grubs. When the wasp larvae hatch they feed on the insect pest. Wasps are the only 'meat-eater' among the Hymenoptera. But they hunt for other insects or spiders only to give them to their growing young. The grown-ups themselves live on nectar like bees and bumble-bees.



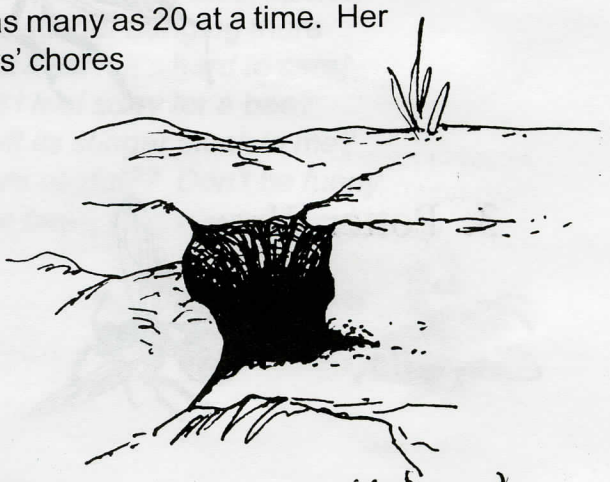
POTTER WASP NEST

Bumble bee



Bumble Bees are bigger and fuzzier than honeybees. They're cute buggers! Often spotted buzzing around bright flowers, bumble bees are also a very important pollinator of flowers. Like honeybees, bumble-bees live in colonies. A bumble bee colony has one queen, female workers that don't lay eggs, and male drones. There are less bumble bees in a bumble bee colony than honey bees in a honey bee colony, and bumble bee nests don't last as long. The bumble bee, a solitary critter at first, starts out all by herself in the spring. After a long winter nap, the queen bumble bee wakes up and begins to build her nest. Bumble bees usually make their nest in the ground, often in empty nests left by a bird or a mouse. Sometimes bumble bees will even choose a clothes dryer vent on a house to make their home! The queen makes the nest out of a ball of dry grass and moss, with a cushion of pollen in the middle. She also makes a pot of pollen, about the size of a thimble, and fills it with nectar. This is called "bee bread", and will be used as food for rainy days.

But the queen cannot manage her hive without help. She becomes a social bee, like the honey bee. She has babies, called larvae, sometimes as many as 20 at a time. Her first-born will all be daughters. As workers, her daughters' chores will be to make more room in the nest, gather and store food, and feed the food to the larvae. The queen continues to lay eggs throughout the summer. Sons are born. By late summer, males and females that can mate are produced. After mating, fertilized females leave the nest to hibernate in the shelter of loose bark, hollow trees or other dry, protected places to sleep through the winter. These will be the bumble bee queens for the next year. The males and worker bumble bees that are left in the colony will die in the first hard freeze or frost.



Entrance to a bumble bees' ground nest

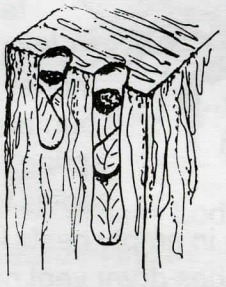
Nest diversity

All bees, wasps and ants are terrific builders. Everybody has seen the inside of a beehive, many of us have seen paper nests of wasps and some might have seen an ant hill during a hike in the foothills. These are the impressive nests of social species. The nests of solitary bees are just as impressive. Have you ever seen a goldenrod stem with a little mud pot attached to it? It's the masterpiece of a potter wasp. Or the tiny basket made out of leaves of a leaf cutter bee with its delicate lid?

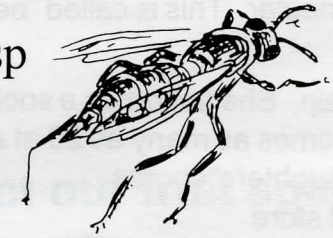
It all starts with a single bee or wasp looking for the perfect nesting site. After she finds one she collects all the material needed for the nest. This can be mud for some wasps, leaves for the leaf-cutting bee or wood scraps chewed into pulp to build the paper-mache nest. Some bees dig into the ground. Others drill into wood – sometimes more than a foot deep! Or think of the nest of the bumble bee. If you take a closer look you can see surprisingly delicate formations.

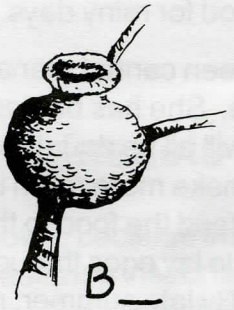
Who built these nests?
Write the right number next to the nest.

1. Leaf-cutter Bee 

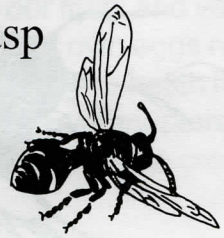


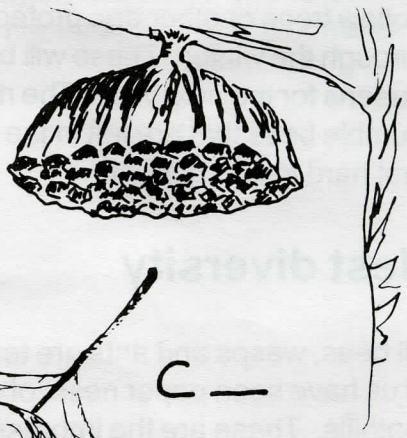
A_

2. Paper Wasp 



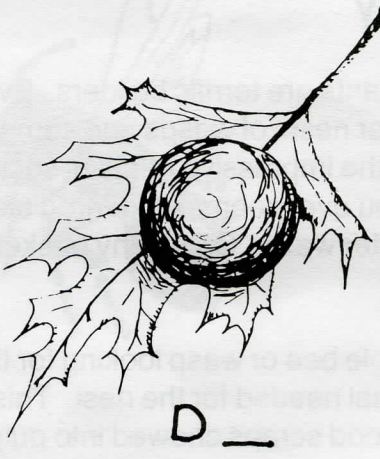
B_

3. Potter Wasp 



4. Oak-Apple Gall Wasp 

C_



D_

Answers: A1, B3, C2, D4