

SMELLS THAT TELL

BY LYLE PRESCOTT; ART BY PIDGEON

It's true: Animals—and even plants—can use smells to “talk” to each other.

Can you imagine these smells? A pine forest after a rain. Cinnamon rolls in the oven. Your favorite shampoo. A rose bush in bloom.

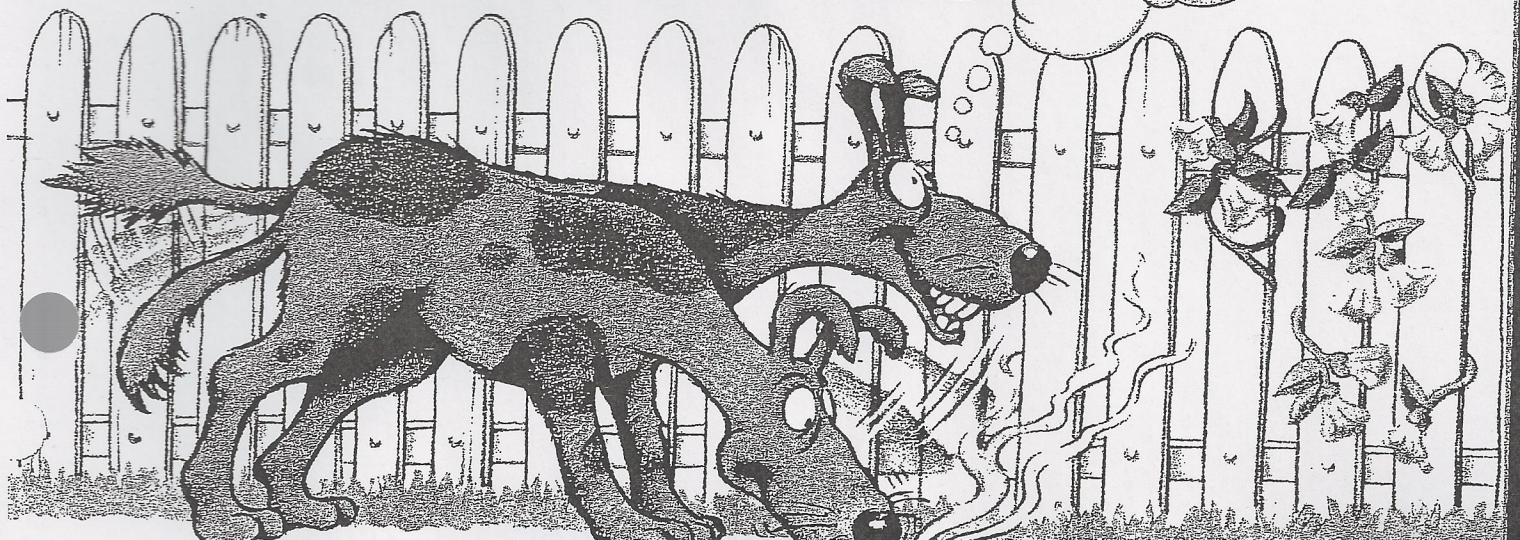
So you think your sense of smell is pretty good? Sorry, but humans have some of the duller noses in the world. It's as if people smell in black and white, while many species (kinds) of animals smell in color. Some animals can get strong whiffs of odors that people don't even know are there.

DOG-GONE!

Many species of insects and fish, and most dogs, are especially good “sniffers.” Have you ever seen a dog nosing around at every little spot in a yard? It's “reading” smells—almost like a person reading a

newspaper. *The cat from next door passed through here last night, followed by a strange dog,* is the kind of news it may discover. A dog can find lots of information from even the tiniest traces of smells.

Other animals may use their super sense of smell to talk with each other. How? Read on to sniff out some clues.

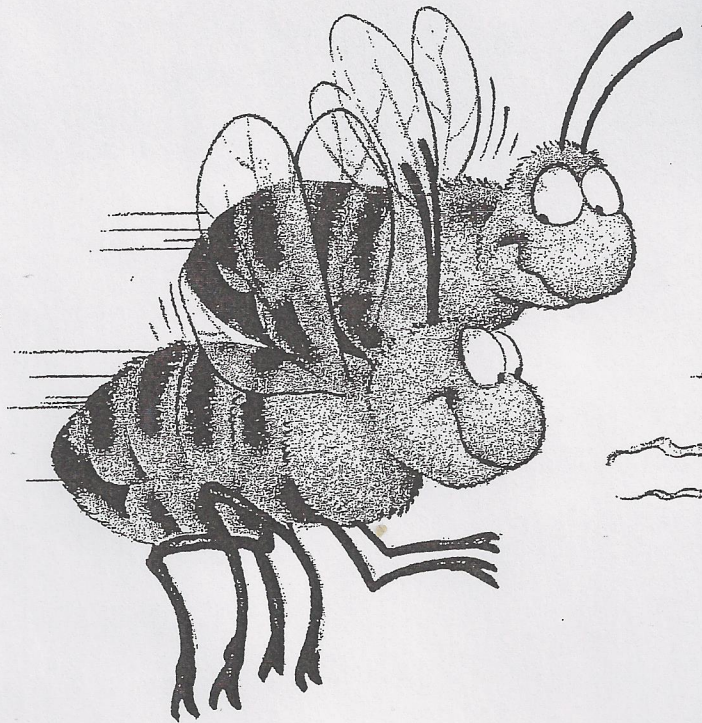


TINY SMELLS—BIG MESSAGES

Many species of animals make chemicals called *pheromones* (FAIR-uh-'mones). These chemicals send special smell-messages to other animals of the same species.

Different pheromones send different messages. One odor may send a warning. Another may attract a mate. Others may mark a trail or a boundary.

Honey bees do lots of smell-talking all day long—about where the best flowers are, where the worst trouble is, and more. They make at least 36 different pheromones! They have a whole chemical language. Instead of talking with words, they talk with smells.



JUST FOLLOW YOUR . . . ANTENNAE?

To see how another kind of pheromone works, imagine this: A lone ant wanders through a field in search of food. Jackpot! It stumbles onto an old sandwich crust.

It grabs a crumb. Then it heads back toward its colony to let the other ants know about the find. Along the way, the ant wipes its abdomen on the ground. This leaves a tiny chemical trail.

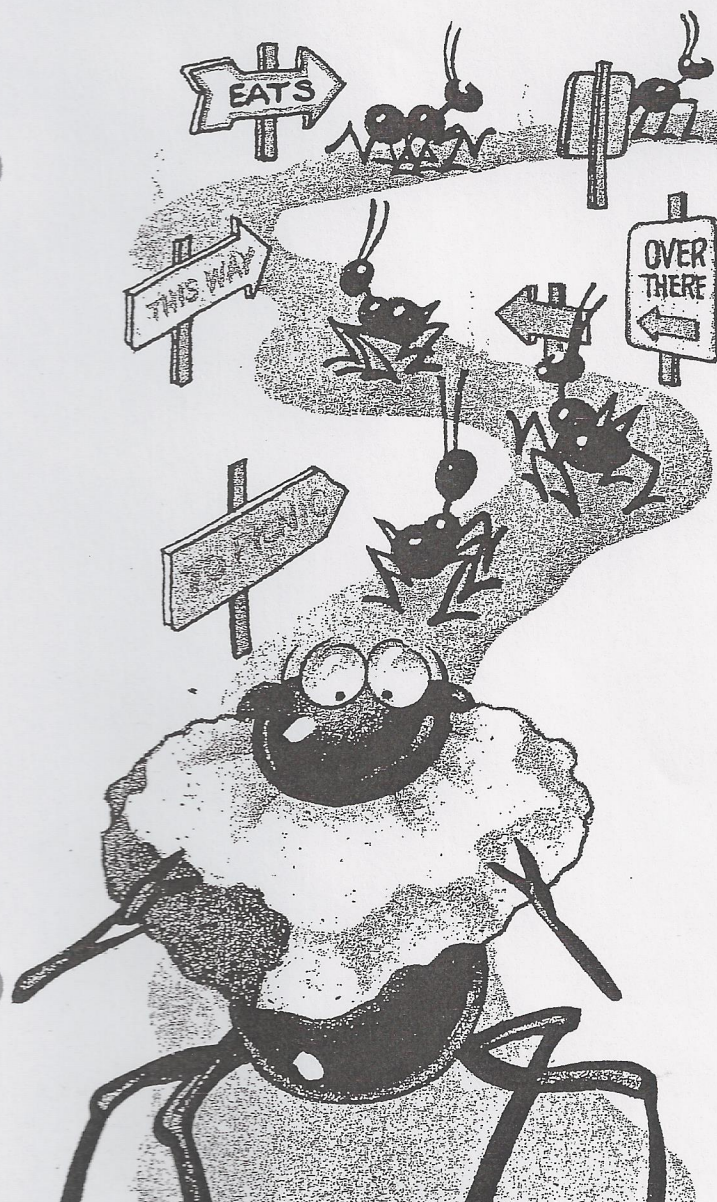
When the ant reaches the others, its chemical smell tells them, "Food is over this way!" The ants "sniff" with the tips of their antennae to follow the trail to the tasty prize.

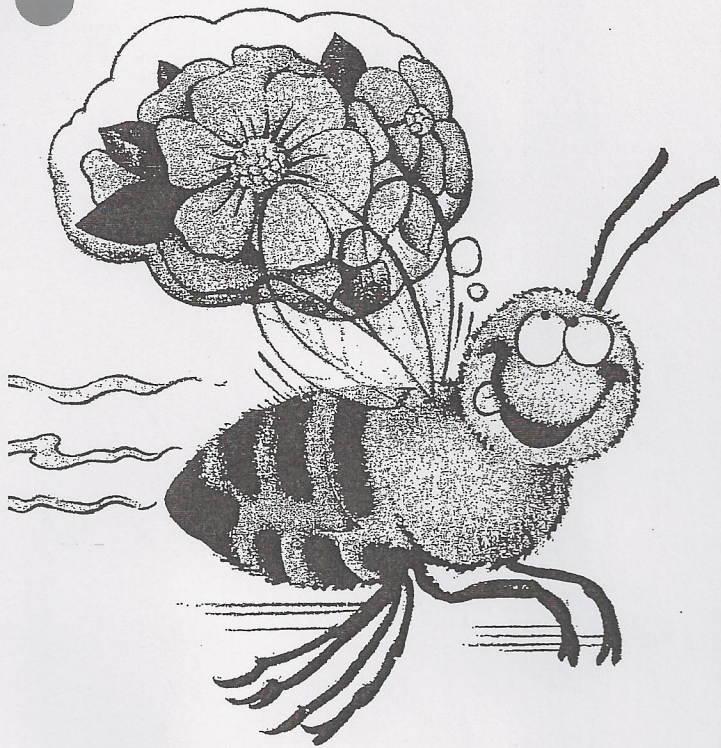
Other insects, such as termites, also mark trails that lead each other to food.

HEY, OVER HERE!

Lots of animals use smells to send messages about mating. When a female dog is ready to mate, she puts out a pheromone that male dogs pick up. "I'm over here!" the smell shouts. Male dogs sometimes come running from miles away.

Many species of insects also put out pheromones to attract mates. In an experiment, scientists put a female sawfly in a trap. Soon she sent out a pheromone announcing she was ready to mate.





perfect spot for this wasp is inside one of those caterpillars. (That way, when the eggs hatch, the larvae have a caterpillar breakfast waiting for them.)

So when the wasp smells the whiff from the chewed-on corn—*zip!*—the insect is there in a flash. The wasp quickly attacks the caterpillar and lays eggs in it. Before too long, the caterpillar dies as the larvae eat it from the inside out. And so this caterpillar won't ever become a moth that might produce more plant-eating caterpillars.

The chemical message from the plant ends up helping the corn field and the wasp. The wasp finds a home for her eggs, and the corn field will wind up with fewer caterpillars destroying it.

So with a squirt and a sniff, wildlife can have some wild conversations! 🐝

Can you guess how many male sawflies flew into the trap? About 11,000!

This experiment shows how pheromones can be used to get rid of insect pests that eat crops. Farmers and gardeners may spray insect pheromones around to confuse pests. The pests then can't find mates and have young. Sometimes people use pheromones as bait, luring insects into traps. Pheromones can do the same thing as pesticides (poisons) but without harming other wildlife, people, soil, or water.

BELIEVE IT OR NOT!

Some plants also send out messages. When they get chomped on by an insect, they put a whiff of chemical into the air. For nearby plants, the whiff is like a warning: "Attackers on the prowl!"

The nearby plants then get ready for battle. Their leaves may quickly make bitter-tasting chemicals that leaf-eating insects don't like.

When a stalk of corn gets munched on by a caterpillar, the plant's leaves often send out a chemical whiff. But this time an animal may sniff the message. Here's what happens:

A female wasp may be cruising nearby. She's looking for the perfect spot to lay her eggs. And the

