

Thirsty and hot, 12 elephants plod across the fried African landscape. The water hole is less than a mile away now, and everyone in the **herd** is looking forward to a good, long drink. Tired **calves** want to stop, but mothers and aunts nudge them along. The older animals make soft, soothing noises. “We’re almost there,” they seem to say. “Just keep walking.”

Suddenly everyone stops. Huge ears stretch out like satellite dishes. After a minute or two of what seems like silence, the animals turn and walk away from the water hole—fast. As they go, the adults huddle close to the calves.

So what happened? Why did the elephants change their course? They seemed to be listening to something. Whatever it was, they got the message to flee! Yet human ears heard nothing.

Elephants make plenty of sounds that humans can hear, such as barks, snorts, roars, and trumpet-like calls. Often a herd will use those sounds to talk with other elephants. But they weren’t in the air this time.

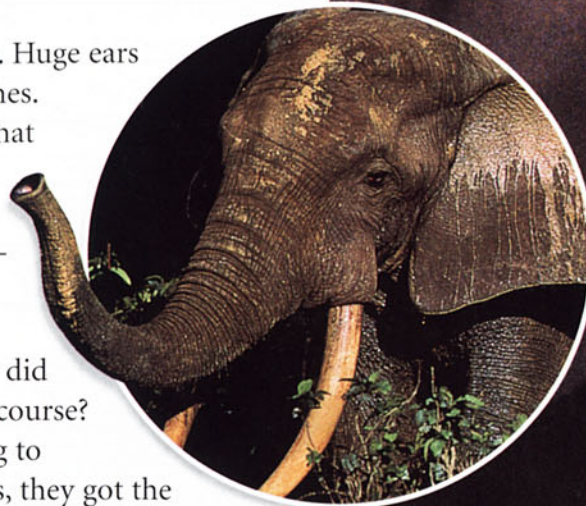
SECOND LANGUAGE

For years, elephants puzzled observers with this type of behavior. But now scientists have solved the mystery. They discovered that elephants have a “secret” language for communicating over long distances. This special talk is based on **infrasound**, sounds so low in **pitch** that humans can’t hear them. The sounds can travel several miles, allowing the six-ton animals to keep in touch across grasslands and forests in Africa or Asia.

To study elephant infrasound, researchers use special equipment that can record low-pitch sound waves. Another machine, called a **spectrograph**, translates the recorded sound waves into images, or markings, that we can see. The images stand for various messages.

► Family Gathering.

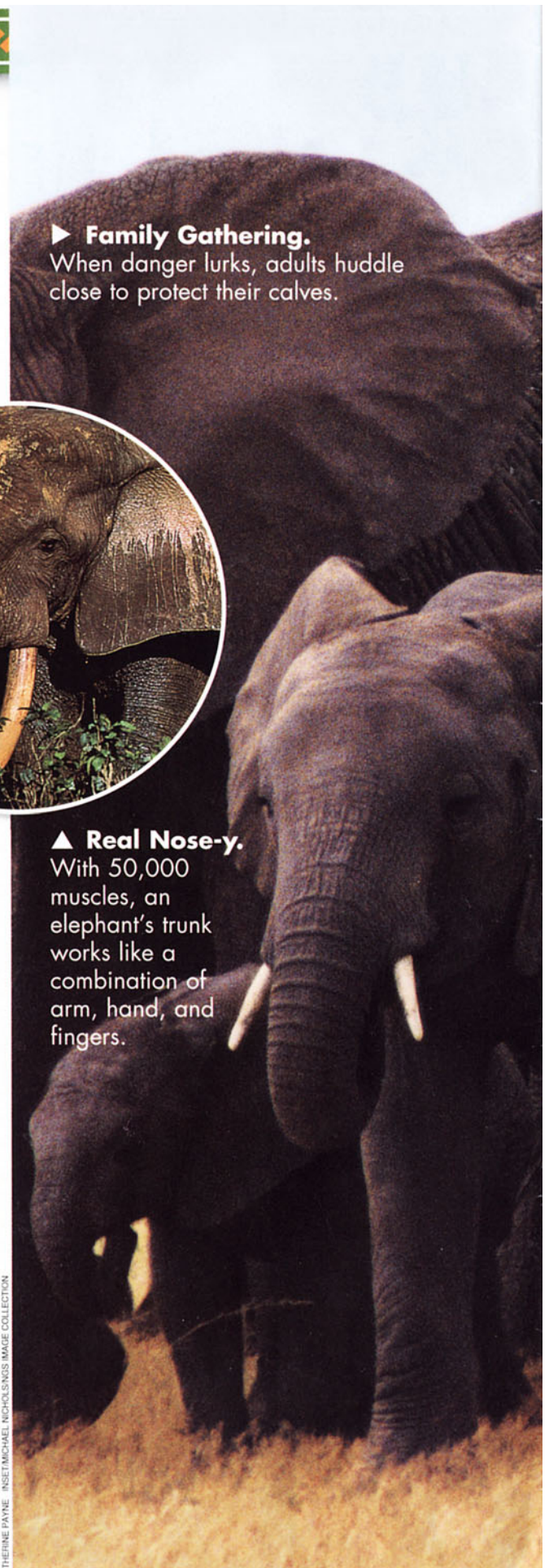
When danger lurks, adults huddle close to protect their calves.

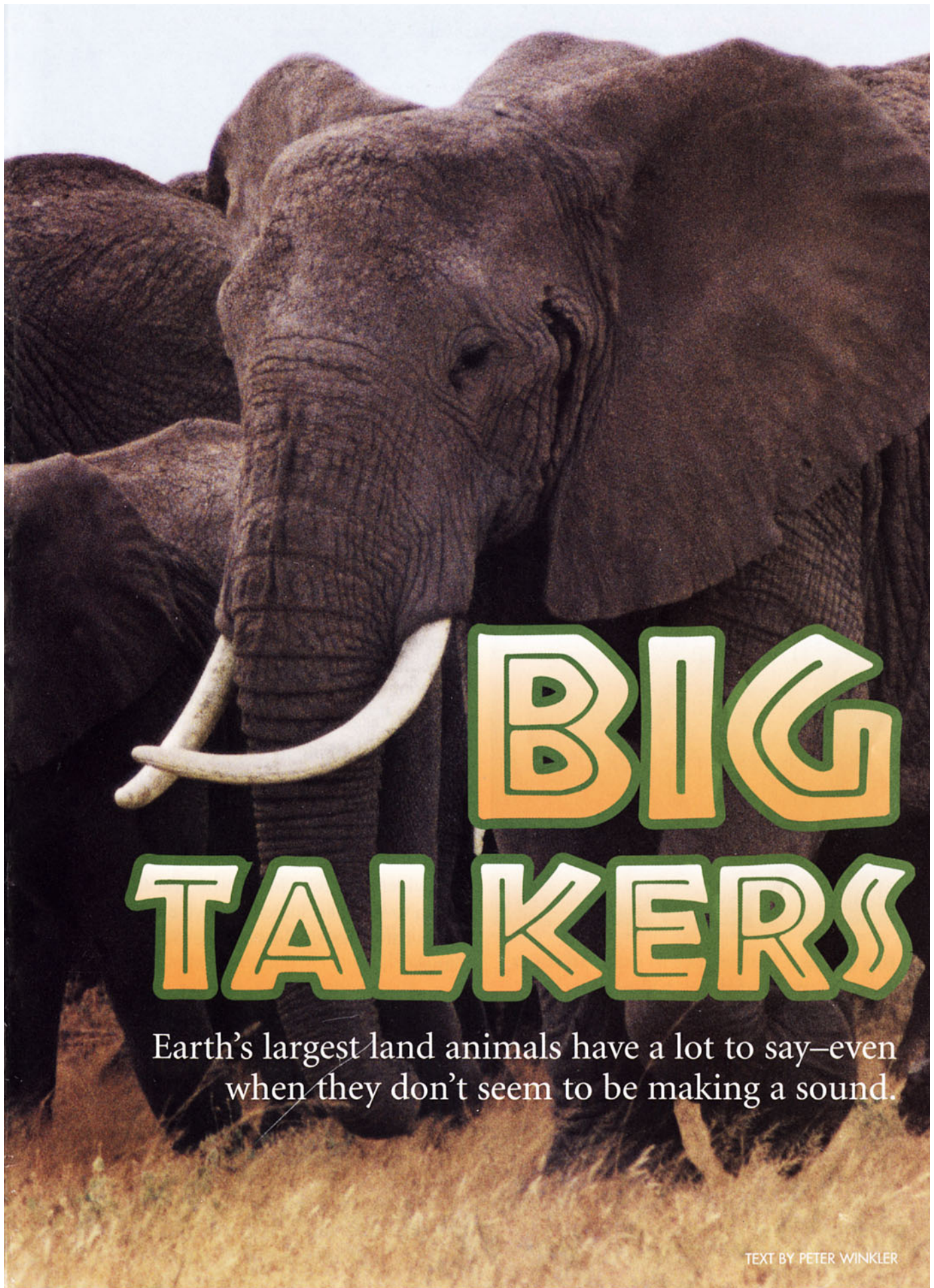


▲ Real Nose-y.

With 50,000 muscles, an elephant’s trunk works like a combination of arm, hand, and fingers.

VERTICINE PAYNE INSET/MICHAEL NICHOLSON'S IMAGE COLLECTION



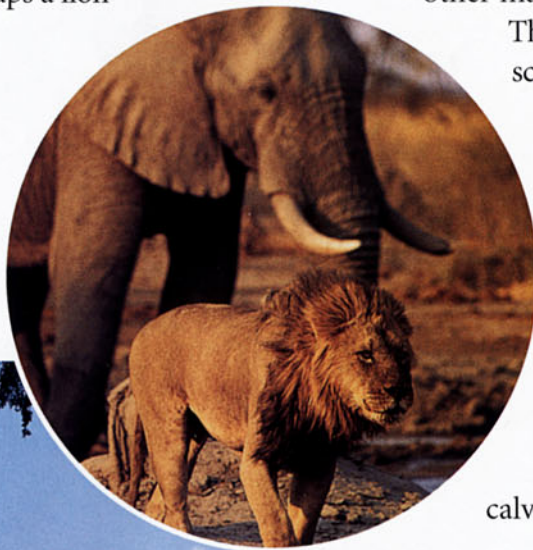


BIG TALKERS

Earth's largest land animals have a lot to say—even when they don't seem to be making a sound.

TEXT BY PETER WINKLER

Translating infrasound helps scientists begin to understand elephant behavior. For example, it turns out that the elephants heading to the water hole may have heard warning calls from another herd. Perhaps a lion was slurping water and looking hungry. The cat would be no match for an adult elephant, but it might kill a calf. No drink would be worth that risk, so the herd turned away.



herds of 10 to 20 members. The oldest female elephant—the **matriarch**—takes charge. Males live with a herd until they are teenagers. Then they depart, living alone or joining with other males in a “bachelor herd.”

The members of a herd often scatter over large areas to seek food for their mighty appetites. (An adult elephant can eat 300 pounds of grass and plants in a single day!) Long-distance calls let elephants know where their relatives are. And when the matriarch says, “Come here!” the herd gathers within minutes.

Like curious kittens, elephant calves sometimes wander off and get into trouble.

▲ **Trouble Ahead?**

Lions sometimes attack elephant calves, so this elephant might warn herds to stay away.

When that happens, they cry for help. Adults respond with infrasound calls and other noises: “It’s

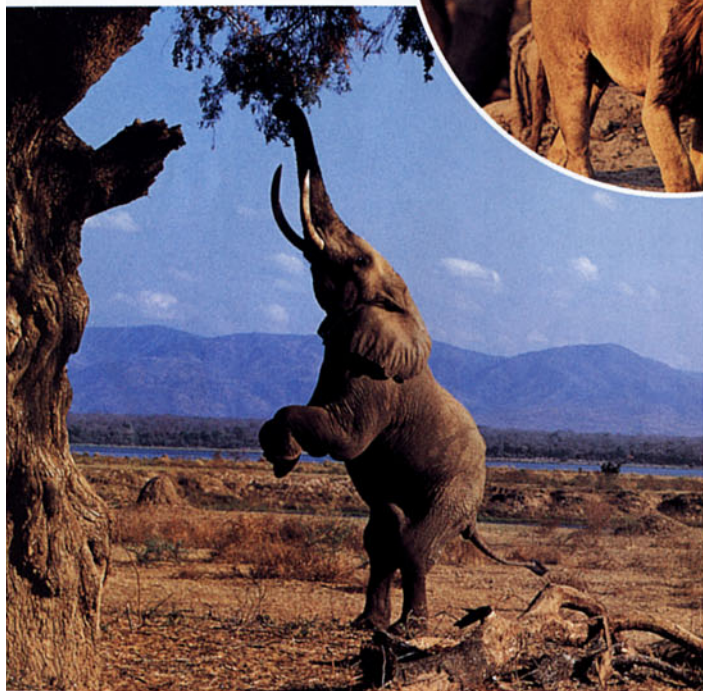
okay. We’re coming to help you.”

Adult males and females often live far apart, so they use infrasound to find each other at mating time. Females mate only once every four years or so. When a female is ready, she makes a special series of calls. Males who hear the calls storm toward her. Sometimes two or more males battle fiercely for a chance to court the female.

HEARING AIDS

Elephants tune in to all this talk with their large, powerful ears. An African elephant’s ear can grow to be six feet long and four feet wide (Asian elephants have much smaller ears.) When straining to hear something, the animal turns toward the sound and opens its ears wide.

At the same time, the elephant may raise its trunk to sniff at the wind. Elephants have a



ABOVE/TOM AND PAT LEESON/PHOTO RESEARCHERS TOP/BEVERLY JOUBERT/NGS IMAGE COLLECTION

Big Eater.

An adult can scarf down 300 pounds of leaves and grass in just one day.

LONG-DISTANCE CALLS

Elephants use infrasound to communicate many types of messages over long distances. Some of their talk helps hold families together. To understand how this works, you need to know a little about elephant families.

Females spend their lives with mothers, sisters, and children. They form tight-knit



N.J. DENNIS/PHOTO RESEARCHERS

WWF—Elephant Style.

Playful and social, young elephants make a pair of Wild Wrestling Friends. Their muddy coats block heat and flies.

keen sense of smell. Odors may help them figure out what they're hearing.

Elephants may have yet another way of learning what's going on around them. Although scientists haven't proved it, some scientists think elephants can feel infrasound as the sound waves travel through the ground.

DISTRESS CALL

Communication skills help Earth's largest land animals survive in the wild. But even these skills can't save elephants from **extinction**.

In 1997 Africa's elephant population was about 500,000. That may seem like a lot, but there were 1.3 million African elephants in 1979. More than half of the elephant population vanished in only 18 years.

How did this happen? **Poachers** killed many elephants for their ivory tusks, because ivory can be sold for a lot of money.

And a growing human population wiped out vast amounts of elephant **habitat** to build farms and towns. Elephants from these areas wandered into human settlements. Some

elephants ate valuable crops and made some farmers angry enough to kill them.

HOW WILL WE ANSWER?

Conservationists are working hard to save elephants. Wildlife groups are trying to persuade people around the world to stop buying ivory.

Elephant supporters are also working with African communities to maintain parks where elephants can be safe and will not harm crops. Some conservationists hope that tourists will visit these beloved animals there. That would mean jobs for local people, who would then view elephants as a valuable resource to protect.

WORDWise

calf: the young of some large animals, such as whales and elephants (plural: *calves*)

conservationist: a person who protects natural resources

extinction: the end of an entire species

habitat: the place where something lives

herd: a group of one type of animal that stays together

infrasound: sound so low that humans can't hear it

matriarch: a female who leads a herd

pitch: how high or low a sound is

poacher: one who kills or takes wild animals illegally

spectrograph: a machine that translates recorded sound waves into images

WebLink



More Elephant Talk

Reunite a young elephant with its mother by answering questions about Africa's biggest talkers. You'll find the "Lost Elephant" game on the NATIONAL GEOGRAPHIC FOR KIDS website at www.nationalgeographic.com/ngforkids/links.

ELEPHANTS IN AFRICA



Land Regions

Most of Africa is made up of high, flat land. There are few mountains. Deserts cover the northern and southern tips of the continent. Rain forests grow along the Equator. Grasslands called *savannas* fill most of the remaining land.

Elephant Population

We are not sure how many elephants live in Africa. It is very hard for humans to trudge through thick wilderness to find the animals. The counts we have are good guesses or estimates. These estimates include the number of elephants that people have spotted from the ground and the air. Some estimated numbers also come from elephant tracks and other clues.

Questions

1. Look at the map. In what land regions do most African elephants live?
2. Look at the population chart below. In which area of Africa are population counts the least definite? Why do you think that is?

Area	Definitely This Many	Probably This Many More	Possibly This Many More Still
Central Africa	7,320	81,657	128,648
Eastern Africa	90,292	16,707	20,190
Southern Africa	170,120	16,382	34,660
Western Africa	2,771	1,282	5,024

Source: International Union for Conservation of Nature and Natural Resources/African Elephant Specialist Group, 1997

