

RESEARCH NOTE**● Sounds of Silence**

It's morning on the African savanna. Suddenly, without a sound, a family of elephants stops eating and begins to move off. At the same moment, about 6 km away, other members of the same family move off in a direction that will reunite them with the first group. How did the groups know when it was time to go?

Do You Hear What I Hear?

Elephants do much of their communicating by infrasound. This is sound energy with a frequency too low to be heard by humans. These infrasonic conversations take place through deep, soft rumblings produced by the animals. Though humans can't hear the sounds, elephants as far as 10 km away respond quickly to the messages.

Because scientists couldn't hear the elephant "conversations," they couldn't understand how the animals coordinated their activities. Of course, the elephants, which have superb low-frequency hearing, heard the messages clearly. It turns out that much elephant behavior is affected by infrasonic messages. For instance, one kind of rumble from a mother to her calf tells the calf it is all right to nurse. Another rumble, from the group's leader, is the "time to move on" message. Still another infrasonic message may be sent to other elephant groups in the area, warning them of danger.

Radio Collars

Once scientists learned about elephants' infrasonic abilities, they devised ways to study the sounds. Researchers developed radio collars for individual animals to wear. The collars are connected to a computer that helps researchers identify which elephant sent the message. The collars also record the messages. This information helps scientists understand both the messages and the social organization of the group.

Let's Talk

Elephants have developed several ways to "talk" to each other. For example, they greet each other by touching trunks and tusks. And elephants have as many as 25 vocal calls, including the familiar bellowing trumpet call (a sign of great excitement). In other situations, they use chemical signals.

Recently, researchers recording elephant communications found that when elephants vocalize their low-frequency sounds, they create seismic waves. Elephant messages sent by these underground energy waves may be felt more than 8 km away. Clearly, there is a lot more to elephant conversations than meets the ear!

On Your Own

Elephants are very intelligent and highly sociable. Find out more about the complex social structure of elephant groups. Why is it important for scientists to understand how elephants communicate with each other? How can that understanding help elephants?