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Dolphin Whistles Offer Signs of Language Ability

Researchers eavesdropping on the underwater signals between dolphins found that they quickly learn and repeat intricate signals from each other, an ability thought to be an important step toward developing a language.

Analysis of more than 1,700 whistle signals exchanged between bottle-nose dolphins swimming along the Moray Firth coast of Scotland showed that the animals routinely responded to each other with matching signals, often echoing identical whistles within seconds.

This trading of signals suggests that dolphins are capable of "vocal learning," a prerequisite for a spoken language, Dr. Vincent M. Janik, a biologist, said in a report of his study, which appears in the current issue of Science.

Dr. Janik, a Scottish researcher now at the Woods Hole Oceanographic Institute in Massachusetts, said the signaling pattern of the dolphins was similar to what experts believed happened when ancient humans began using organized speech.

Matching or labeling communication, he said in the study, "has been hypothesized to have been an important step in the evolution of human language."

Although birds like parrots are known for their ability to imitate sounds made by others, "bottlenose dolphins are the only nonhuman mammals in which matching interactions with learned signal types have been found," he said.

Dr. Janik said that the dolphins apparently used the matching whistle patterns to address each other and that the sounds might play a role in signaling membership of a group.

Earlier studies have shown that young dolphins adopt a signature whistle pattern, rather like a name, early in life. Dr. Janik's study showed that the mammals may use these signature whistles as a way of addressing a specific animal that may be swimming many feet away.

"Janik provides important evidence that vocal labeling is used by wild dolphins for social communication," Peter L. Tyack, a Woods Hole researcher, said in a commentary.

Photo: Dolphins can repeat one another's intricate whistles, researchers say. (NBC)