

ScienceWatch – A True Fable



“Corvids are remarkably intelligent, and in many ways rival the great apes in their physical intelligence and ability to solve problems.” – C. Bird

You probably remember Aesop’s fable, “The Crow and the Pitcher”, in which a thirsty crow raises the water level in a partially filled pitcher by dropping in stones until it can get a drink. Now a study in the August 25, 2009 issue of *Current Biology* by Christopher Bird and Nathan Emery, animal behaviorists at the University of Cambridge, UK, demonstrates that rooks (*Corvis frugilegus*), close relatives of crows, can do what is described in the fable.

Using four rooks raised in captivity, the scientists challenged their problem-solving ability in three different experiments. In the first, each rook was given access to a clear, six-inch tall, plastic cylinder partially filled with water, and containing a juicy waxworm secured to a cork floating on the surface. A nearby pile of identical stones, each capable of raising the water the same height, allowed the bird to retrieve the prize by dropping in stones-one at a time- until it could reach the worm. Even though the birds were challenged with several different starting water levels, in each case they quickly determined the minimum number of stones needed to reach the worm.

In the next experiment the rooks were given both small and large stones. In that situation they promptly learned that the large stones gave them quicker access to the worm.

In the third experiment the birds were presented with a sawdust-containing cylinder alongside the cylinder of water and a pile of large stones equidistant from each cylinder. Both tubes were filled to same level and contained the “floating” bait. After a few attempts at adding stones to sawdust, the birds rapidly learned it was futile and focused all their efforts on the cylinder with water.



These results illustrate the innate intelligence of these birds and highlight their ability to solve complex problems. Christopher Bird speculates that Aesop (or whoever wrote the fable) may have actually seen similar behavior in a rook or a crow. “In folklore all members of the corvid family are just called crow,” he said.

The study also demonstrates that rooks, like crows and jays, are able to use tools - see *ScienceWatch: Something to Crow About* (Jan. 2008) or at www.hras.org.

Interestingly, tool use by rooks has never been observed in the wild. According to Bird, “Rooks do not use tools in the wild because they do not need to, not because they can’t. They have access to other food that can be acquired without using tools.”

He points out that this fits neatly with the point of the fable as demonstrated by the crow, “Necessity is the mother of invention.”