

LINKING FORAGING EXPERIMENTS TO THE REAL WORLD: WHAT ARE WE MISSING?

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For the past 15 years, capuchin monkeys at Iguazú National Park, Argentina, have been the subjects of experimental studies on foraging cognition using arrays of 3-16 feeding sites with food amounts deliberately controlled in amount and timing by protocols designed to address specific questions about capuchin food knowledge and their use of that knowledge. Major conclusions that have emerged from these studies are: 1) capuchins can remember the location of at least 16 food sources at one time; 2) they can navigate in essentially straight line travel between any pair of known food sources; 3) they can remember past (and anticipate future) food rewards at several resources; 4) they appear to sum expected rewards and costs over different movement sequences to choose the most profitable pathway, when choosing among only two alternatives; 5) when faced with more complex route choices involving four equally-rewarding possible goals, they appear to use a simple rule: move to the nearest unused resource; and 6) they may recall the time elapsed since the last visit to a particular resource but appear to ignore differences in 'ripening' rate among sites of a single food 'species'. In combination, these rules explain a majority of movement decisions by capuchin groups, but leave unexplained several additional foraging patterns seen in groups using natural food sources. These patterns are described and their importance assessed relative to the results that have been found using only experimental approaches. Some of the cognitive abilities supporting these additional patterns might best be explored in captivity.

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