



Blue Jay (Cyanocitta cristata) on chinquapin oak branch.

Oaks and Blue Jays, Balancing in Life's Magnificent Web

Especially in autumn, oak woodlands are the preferred territory of the Blue Jay, an energetic songbird who shells acorns with his sturdy bill and eats the nutmeats, rich in fat and protein. Jays have the muscle to carry intact acorns, a cargo that most birds cannot lift, caching (burying) them for use in winter. Chances are good that, in spite of their excellent memory, the birds will lose track of some acorns, and a few will sprout into sapling trees.

From the standpoint of the oaks, this means that some seeds from a parent tree will be scooped up, transported and planted in fertile ground, hidden from hungry browsers, such as bears, deer and turkeys. Acorns are too heavy to be carried by the wind, but many animals who prefer them will bury some near the parent tree. In contrast, the Blue Jay's large build and forceful flight are unique, and he is only animal that largely transports acorns over and past man-made barriers, such as roads, crops and buildings. This is particularly important in modern landscapes where woods may be fragmented by development. The resulting mix of acorns from different places promotes genetically healthy trees.

The Blue Jay and oaks share a connection, beneficial to both, called *mutualism*.

Thousands of years of adaptation have fine-tuned the jay's body and behavior to both exploit and support his food source. For example, the jay has an expandable throat that makes it possible for him to carry several acorns and deliver them to a location up to two miles away. Jays prefer to bury acorns on sunny woodland edges where light is abundant, and the birds are observed to test acorns, choosing only the healthier ones for storage, meaning that nuts buried by jays are, if not consumed, much more likely to sprout and succeed.

When fire, disease or logging has taken trees, the jay is there to plant more. Many researchers have suggested that, in oak forests, the blue jay is a *keystone species*, a key life form whose presence plays a crucial role in the health of the entire system. The spectacular jay is providing *unparalleled services to mankind* which may not be apparent to the casual observer. Established stands of oaks are highly valuable resources, used for timber, firewood, furniture and many other purposes, and as habitats for a variety of other plants and animals.*

* A single blue jay may store thousands of acorns per year. One study concluded that a small population of jays in a wooded area made 13,000 round trips and dispersed over 100,000 acorns to hiding spots in one season. Acorn Dispersal by the Blue Jay (*Cyanocitta cristata*). Susan Darley-Hill and W. Carter Johnson. *Oecologia*, Vol. 50, No. 2 (1981), pp. 231-232

Nut Caching by Blue Jays (*Cyanocitta cristata* L.): Implications for Tree Demography. Johnson, W. Carter, Adkisson Curtis, S.Crow, Thomas R. Dixon, Mark D. American Midland Naturalist. Oct., 1997, Vol. 138, Issue 2, p357-370, 14p.

