

Naturalists and casual observers alike have been struck by the special relationship between squirrels and acorns (the seeds of oak trees).

Ecologists, though, cannot observe these energetic mammals scurrying up and down oak trees and eating and burying acorns without wondering about their complex relationship with trees.

Are squirrels dispersers and planters of oak forests or pesky seed predators? The answer is not simple.

Squirrels may devour many acorns, but by storing and failing to recover up to 74 percent of them (as they do when seeds are abundant), these arboreal rodents can also aid regeneration and dispersal of the oaks.

Their destructive powers are well documented.

According to one report, squirrels destroyed tens of thousands of fallen acorns from an oak stand on the University of Indiana campus.

A professor there estimated that each of the large white oaks had produced between two and eight thousand acorns, but within weeks of seed maturity, hardly an intact acorn could be found among the fallen leaves.

Deer, turkey, wild pigs, and bears also feed heavily on acorns, but do not store them, and are therefore of no benefit to the trees.

Flying squirrels, chipmunks, and mice are also unlikely to promote tree dispersal – whose behavior of caching (hiding) acorns below the leaf litter often promotes successful germination of acorns – and perhaps blue jays, important long-distance dispersers, seem to help oaks spread

and reproduce.

Among squirrels, though, there is a particularly puzzling behavior pattern.

Squirrels pry off the caps of acorns, bite through the shells to get at the nutritious inner kernels, and then discard them half-eaten.

The ground under towering oaks is often littered with thousands of half-eaten acorns, each one only bitten from the top.

Why would any animal waste so much time and energy and risk exposure to such predators as red-tail hawks only to leave a large part of each acorn uneaten? While research is not conclusive at this point, one thing that is certain is that squirrels do hide some of the uneaten portions, and these acorn halves, many of which contain the seeds, may later germinate.