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Abstracts

FEATURE ARTICLES

SIZE, INSECT PARASITISM, AND ENERGETIC VALUE OF ACORNS STORED BY ACORN WOODPECKERS

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Abstract. We compared species composition, insect parasitism, and mass of acorns stored in 12 granaries with acorns present within the territories of Acorn Woodpeckers (*Melanerpes formicivorus*) at Hastings Reservation in central coastal California. All three species of oaks present in the study area produced excellent crops the year of the study, and thus woodpeckers could readily have filled their granaries with acorns of any one of the species. Nonetheless, species composition of stored acorns was highly variable among territories and at least some acorns of all three species were stored in all granaries. There was no consistent difference in insect parasitism between stored and unstored acorns. Relative to estimated availability, birds preferred to store *Quercus lobata* acorns and avoided *Q. douglasii* acorns, but showed no preference for *Q. agrifolia* acorns even though they are energetically more valuable than the other two species. Stored acorns of two of the three oak species also weighed less, and were thus presumably smaller, than the average unstored acorn. On average, Acorn Woodpeckers did not maximize the energetic value of their stores and could have increased the energy stored in their granaries by 14–108% had they chosen larger acorns or more energetically rich *Q. agrifolia* acorns. Storing may be better understood in a more traditional optimal foraging context in which the costs of harvesting and caching, together with the energetic value of stored acorns, are considered together.

Key words: caching, food storage, granary, insect damage, *Melanerpes formicivorus*, oaks.