



Cooper's Hawk Feeding on Barred Owl and Norway Rat in Victoria, British Columbia

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Direct observations of interactions between predator and prey, while in the field, are of importance in providing new information on a species' behaviour as well as contributing to its diet profile. Knowledge of the diet of Cooper's Hawk (*Accipiter cooperii*; Figure 2) and Barred Owl (*Strix varia*; Figure 1) in North America has been derived primarily from prey remains and regurgitated pellets collected at nest and roost sites during the breeding period (Rosenfield and Bielefeldt 1993, Mazur and James 2000). Little is known of prey taken during the species' non-breeding

season (see Roth and Lima 2003).

In autumn 2010 and spring 2011, I witnessed two interactions between Cooper's Hawk and Barred Owl in my backyard in Victoria, British Columbia. The property includes remnant Garry oak (*Quercus garryana*) woodland. I maintain bird feeders from autumn to spring during which time Cooper's Hawk is an infrequent visitor and the Barred Owl occasionally roosts daily in large ornamental trees in my yard.

Two interactions, both involving food items, were recorded.



Figure 1. Cooper's Hawk is one of the growing number of raptors that has adapted well to urban environments. Photo by Mark Nyhof, Ladner, BC, February 1994.

Barred Owl (*Strix varia*)

On 1 March 2011, while returning home about 1440 hr, I noticed a large bird of prey, later identified as a female Cooper's Hawk, holding something in its talons on a branch of a Garry oak near my bird feeder. The hawk momentarily dropped its prey but picked it up again and flew to a branch about 1 m from the ground. The hawk held the entire Barred Owl by its neck. About five minutes later, the Cooper's Hawk started to pluck the owl, a well-known feeding behaviour of accipiters (Rosenfield and Bielefeldt 1993). I decided to get my camera from the house but the hawk noticed the movement and flew off, carrying the owl barely above the ground, towards a neighbour's yard, 30 m away and disappeared. I (Stirling 2011) provided a more personal account of this feeding event. This observation appears to represent an act of predation by Cooper's Hawk on a Barred Owl, but because the capture and killing of the owl were not observed, scavenging cannot be firmly ruled out.



Figure 2. Barred Owl is now a potential prey species for Cooper's Hawk wherever they co-occur in British Columbia. *Photo by Mark Nyhof, Victoria, BC, 27 May 2010.*

Norway Rat (*Rattus norvegicus*)

At 0830 hr, on 6 October 2010, I saw a Cooper's Hawk on top, but struggling with, a live Norway Rat (Figure 3) at the base of a Garry Oak on my back lawn. During the tussle, the rat managed to tip the hawk onto one wing several times. Eventually the hawk triumphed and flew, carrying the rat, to an exposed limb on an ornamental cedar of Lebanon (*Cedrus libani*). A Barred Owl flew out from its roost in a nearby large ornamental Monterey cypress (*Cupressus macrocarpa*) directly at the hawk, but the hawk flew off with the rat when the owl was almost upon it.



Figure 3. Norway Rat, a common urban mammal on southern Vancouver Island, is nearly four times the average weight usually taken as prey by Cooper's Hawk. *Photo by R. Wayne Campbell, Victoria, BC, 14 March 2008.*

It appears that Barred Owl and Norway Rat are new prey species for Cooper's Hawk. Barred Owl must be near the upper limit of prey that a Cooper's Hawk can successfully carry. Most prey items reported in the summer diet of Cooper's Hawk are medium-sized birds and mammals ranging from 50 to 130 g or between 8% and 22% of the body weight of an adult female (Storer 1966, Rosenfield and Bielefeldt 1993). The mass of Barred Owl, both sexes combined, ranges between 468 and 1,051 g more than the mean weight of 416 g reported for an adult female Cooper's Hawk (Earhart and Johnson 1970). Rosenfield (1998) reported Cotton Rat (*Sigmodon* spp.) as a prey item but did not list other rodents.

Cooper's Hawk and Barred Owl appear to co-exist in mixed forests in urban habitats on southern Vancouver Island mainly due to differences in hunting times (e.g., diurnal versus nocturnal), nest site selection (e.g., platform versus cavity), food habits (e.g., mainly small to medium-sized birds versus mainly small mammals), and residency (e.g., partial migrant versus non-migratory) (Campbell et al. 1990, Rosenfield and Bielefeldt 1993, Mazur and James 2000).

The Barred Owl was first reported in Victoria, on southern Vancouver Island, on 26 November 1969 (Stirling 1970) and during the following two decades expanded its range to include the entire east side of the island (Campbell et al. 1990). As woodland habitats become utilized, competition between Cooper's Hawk and Barred Owl may be reported more frequently, especially in urban areas where bird feeders attract a variety of potential prey species. †

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About the Author

Dave spent his early years on a pioneer farm at the edge of the boreal forest near Athabasca, Alberta. He was already a keen observer of the natural world by the age of twelve. Dave enjoyed observing woodland passerines high in the forest canopy while sitting quietly and watching frogs and whirligig beetles from a stump in a spring pond. He learned early that by watching chickens with heads aslant and one eye pointing skyward that he could locate migrating raptors.

Dave graduated as first lieutenant from Sandhurst Military College, England and later moved to Canada where he worked in fisheries and forestry. He finished his career with the interpretation and research division of the British Columbia Parks Branch.

Dave helped organize and lead over 60 nature tours worldwide. This year (2011) he is 91 years old.