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Adult Gray Jay Captures an Adult Black-capped Chickadee

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ABSTRACT.—We observed an adult Gray Jay (*Perisoreus canadensis*) that had captured an adult Black-capped Chickadee (*Poecile atricapillus*) in Algonquin Provincial Park, Ontario, Canada, during winter. Aerial pursuit of small, adult birds and an instance of capture and predation of a juvenile bird by a Gray Jay have been reported previously. Here, we present the first documented case of capture of a seemingly uninjured, adult bird. Received 22 March 2004, accepted 12 October 2004.

The Gray Jay (*Perisoreus canadensis*) is well known for its diverse diet. Foods cited in the literature include arthropods, berries, carrion, nestling birds, fungi (Strickland and Ouellet 1993); a blood-stained weasel (Bent 1946); an injured Green-winged Teal (*Anas crecca*; Ouellet 1970); a well-decomposed seal carcass (Ouellet 1970); live deer mice (*Peromyscus maniculatus*; Gill 1974); blood-engorged winter ticks (*Dermacentor albipictus*; Addison et al. 1989); and insects caught in the air, flycatcher-style (Lawrence 1968, Strickland and Ouellet 1993). When available, eggs, nestlings, and weak-flying fledglings of many bird species are commonly eaten (Ouellet 1970, Strickland and Ouellet 1993).

It has been suggested that predation of adult birds by Gray Jays may be more regular than previously thought (Ouellet 1970, Barnard 1996). Here, we report the details of an adult Gray Jay that had captured an adult Black-capped Chickadee (*Poecile atricapillus*) during winter, which contributes to knowledge of the capture of independent vertebrate prey by Gray Jays.

On 26 February 2004, while birding along a road south of Lake Opeongo, Algonquin

Provincial Park, Nipissing District, Ontario, Canada (45° 37' N, 78° 21' W), our attention was drawn to a distress call that was loud, high-pitched, squeaky, and repeated quickly with few pauses. Upon turning toward the call, we were surprised to see a Gray Jay standing on top of a Black-capped Chickadee. The sound was given by the distressed chickadee as it attempted to escape the jay's grasp. One of the jay's feet appeared to be placed around the chickadee's neck, whereas the other foot grasped somewhere along the belly. We observed this act from about 10 m away, on a snow-covered, plowed roadway for approximately 5 sec, after which time the jay released the chickadee. The jay initially hopped away quickly and then flew off, while the chickadee, apparently unharmed, flew immediately to dense cover located 5 m away and disappeared. It is likely that the movement of a nearby photographer scared the jay. We suspect that if the jay had not been startled, it would have killed the chickadee.

Both the jay and the chickadee were probably initially attracted to seeds and bread that had been thrown along the plowed portion of the road. Two Gray Jays and up to a dozen Black-capped Chickadees had been visiting the road throughout the day, and during ~1 hr of watching the jays and chickadees earlier that same day, we did not witness any aggressive interactions, despite the fact that the birds fed within meters of each other. We did not observe the events prior to those described above; therefore, we do not know how the jay captured the chickadee.

The jay was uniquely color-banded, as part of a long-term study of Gray Jay nesting biology and behavior (see Strickland and Waite 2001), and belonged to a pair that was building a nest approximately 200 m from where the observation occurred. We observed this pair add material to their nest about 45 min before our observation, and we observed them again near the observation site a few minutes

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before the incident occurred. In the excitement of the moment, neither of us noted whether the jay standing on the chickadee was the male or the female.

Based on a comparison of the characteristics of the distress call that we heard given by the captured chickadee with the auditory descriptions of the major call types of chickadees outlined in the literature (Hailman 1989, Smith 1991), the call we heard was most similar to the “squeal” delivered by trapped adults of the Boreal Chickadee (*P. hudsonica*; Ficken et al. 1996), Mountain Chickadee (*P. gambeli*; McCallum et al. 1999), and Chestnut-backed Chickadee (*P. rufescens*; Dahlsten et al. 2002). Smith (1993) described squeals given by distressed, young Black-capped Chickadees soon after they fledge, but did not describe adult squeals. The duration of the noisy interaction we witnessed was likely too short (i.e., only about 5 sec) to attract attention from other birds; there have been reports of jay predation on birds during which distress calls lasting from 1 to 5 min elicited a mobbing response by nearby birds (Ehrlich and McLaughlin 1988, Curry 1990, Barnard 1996).

Barnard (1996) reported a juvenile Gray Jay that captured, killed, and consumed a juvenile Magnolia Warbler (*Dendroica magnolia*) that was capable of quick, sustained flight. This is the only previous report of an uninjured bird being captured by a Gray Jay (Barnard 1996). Strickland and Ouellet (1993) noted that small, adult birds are usually ignored by Gray Jays, although energetic, unsuccessful, aerial pursuits of Boreal Chickadees and Common Redpolls (*Carduelis flammea*) occasionally occur. Pike (1978) observed an adult Gray Jay capture an injured Black-capped Chickadee. The chickadee was already injured when it was found in a mist net—probably, the author explains, as a result of being pecked by a Gray Jay. When the chickadee was placed on the ground to recover, a Gray Jay grabbed it with its feet, and pecked on the chickadee’s head several times before it flew off with it (Pike 1978).

Predation of adult or fledgling birds by other jay species has been reported elsewhere: Mourning Dove (*Zenaidura macroura*; DuBoway 1985), Yellow-rumped Warbler (*Dendroica coronata*; Johnson and Johnson 1976), Purple

Finch (*Carpodacus purpureus*; Downs 1958), and House Sparrow (*Passer domesticus*; Master 1979) by Blue Jay (*Cyanocitta cristata*); Pygmy Nuthatch (*Sitta pygmaea*) and Dark-eyed Junco, gray-headed morph (*Junco hyemalis caniceps*) by Steller’s Jay (*Cyanocitta stelleri*; Carothers et al. 1972); Northern Mockingbird (*Mimus polyglottos*) by Florida Scrub-Jay (*Aphelocoma coerulescens*; Curry 1990); European Starling (*Sturnus vulgaris*), Cliff Swallow (*Petrochelidon pyrrhonota*; Ehrlich and McLaughlin 1988), and Hermit Thrush (*Catharus guttatus*; McLandress and McLandress 1981) by Western Scrub-Jay (*Aphelocoma californica*); and an unknown sparrow by Mexican Jay (*Aphelocoma ultramarina*; Roth 1971). Use of the feet by jays to restrain avian prey, demonstrated by the Gray Jay in our observation, has been noted previously for Steller’s Jay (Carothers et al. 1972), Blue Jay (Master 1979, DuBoway 1985), Florida Scrub-Jay (Curry 1990), Western Scrub-Jay (Ehrlich and McLaughlin 1988), and Gray Jay (Pike 1978, Barnard 1996). By using their feet to restrain prey, the jays’ bills are free to strike and kill their victims (McLandress and McLandress 1981, Ehrlich and McLaughlin 1988).

During periods of inclement weather in winter, some jay species appear to be attracted to small birds as a food source (Roth 1971, Carothers et al. 1972). The weather prior to and during our observation was not unusually harsh relative to average winter weather patterns for the area, suggesting this was not a contributing factor. Similarly, Johnson and Johnson (1976) and Master (1979) concluded that inclement weather was not a contributing factor to their observations of Blue Jay predation on birds. Inclement weather in winter should not influence Gray Jay predation on birds, given that this species relies on food cached throughout large, year-round, multi-purpose territories to survive harsh, boreal-forest winters (Strickland and Ouellet 1993). It is also highly unlikely that hunger was a motivating factor for this aggressive interaction because these jays were highly subsidized by artificial feeding, and they were demonstrating their superior nutritional state by nesting ahead of all other Algonquin Gray Jay pairs ($n = 20$) under observation at that time (R. D. Strickland pers. comm.).

Our observation, combined with observations by Barnard (1996) and Strickland and Ouellet (1993), suggest that Gray Jays capture small, adult passerines opportunistically throughout the year. This is the first documented instance of a seemingly uninjured adult bird being captured by a Gray Jay. These kinds of observations advance our understanding of interactions among species. Additional study is needed to reveal the frequency with which the Gray Jay preys on adult birds, and the environmental factors that influence this behavior.

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