

NOTES

American Crows provoking reactions from Wild Turkeys and Red-shouldered Hawks.—Provoking other birds or mammals to react in some way or give chase, is a behavior that has been little described for American Crows (*Corvus brachyrhynchos*) other than accounts by Smyth (1960) of their stooping on American Kestrels (*Falco sparverius*), by Erskine (1968) of a crow chivving a Bald Eagle (*Haliaeetus leucocephalus*) and by Kilham (1982) of crows pulling the tails of river otter (*Lutra canadensis*). I here report American Crows provoking Wild Turkeys (*Meleagris gallopavo*) and a Red-shouldered Hawk (*Buteo lineatus*) at the Hendrie ranch, 25 km south of Lake Placid, Highlands County, Florida, in January-May 1983-85. The tameness of the crows, maintained by a daily feeding of corn, enabled me to distinguish yearling from adult crows, using the criteria of Emlen (1936). Other behaviors of American Crows in Florida are described elsewhere (Kilham 1984a and b).

When I scattered corn, hen Wild Turkeys came almost as often as crows, the two species often feeding together. In 1984 the turkeys appeared more aggressive than in previous years, chasing each other as well as driving the crows away. After some weeks the crows ceased coming to the corn. I then noticed a few crows behaving as if they were trying to entice the turkeys to chase them. This appeared easy due to a habit of the turkeys of running to almost any crow active on the ground, as though crows indicated the presence of corn, whether corn was there or not. On 2 February 1984, an adult crow was Bowing (Kilham 1985) by itself on a pasture when a turkey ran toward it. The crow picked up some debris and hopped away, picking up and dropping several more items as the turkey followed. When the turkey came close, the crow jumped to a snag, still holding debris. When the turkey walked away, the crow walked after it, pecking the ground. The turkey then turned and ran at the crow with wings out and tail elevated. The crow, spreading its wings, faced the turkey momentarily, then retreated. Interaction between the two went on for 7 min. In an interlude the crow flew to a fence post with the turkey following to the foot of it. The two then returned to where they had started, with the crow swooping at the turkey as it ran. A crow was working on a cow pie on the following morning when a turkey ran to it. The crow, taking a section of cow pie in its bill, moved away with the turkey in pursuit. The interactions that followed were much the same as on 2 February.

On 28 January 1985, I observed a lone yearling crow making varied low caws, when, still vocalizing, it flew to within 3 m of a Red-shouldered Hawk perched at mid-tree level in a swamp. The hawk flew at the crow and the crow retreated, but when the hawk perched, the crow, vocalizing as before, approached again. The hawk chased the crow three times in 4 min, each time for 3-4 m among branches of a red maple (*Acer rubra*). Other members of the yearling's group, foraging in the swamp, paid little attention to the interplay of hawk and yearling 10-15 m away. I witnessed a similar interaction between a Red-shouldered and a crow in the same maple on 27 January, but in less detail.

Provoking attacks have been reported for other *Corvus* species. A memorable account is Schaller's (1964) observation of gorillas (*Gorilla gorilla*) that ducked when a pair of White-necked Ravens (*C. albicollis*) flew over. The ravens, returning, swooped on the gorillas repeatedly, making the gorillas "angrier" than Schaller had previously seen them. Fossey (1983) observed much the same situation 20 years later when a large male sat rigid as a pair of ravens dive-bombed its head. Mech (1970) describes Common Ravens (*C. corax*) swooping on wolves (*Canis lupus*) and the wolves leaping at the ravens. Among other

corvids Blue Jays (*Cyanocitta cristata*) are described in Bent (1946) as repeatedly flying into the face of a Sharp-shinned Hawk (*Accipiter velox*) and being chased, a behavior that I have also noted (unpubl. obs.). Provoking a larger or more powerful animal would seem to occur among a variety of corvids when another animal responds. The function of this behavior is unclear and worthy of additional study.

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Gray squirrel kills and eats Blue Jay fledgling.—On 27 May 1978 at Athens, Georgia, we observed a gray squirrel (*Sciurus carolinensis*) capture and eat a fledgling blue jay (*Cyanocitta cristata*). Four fledglings were observed attempting to fly. Three were relatively inactive: the fourth flapped its wings while climbing an oak tree trunk. Four to six adult-sized gray squirrels were nearby. One stalked the active fledgling. Twice when the squirrel approached the fledgling, two adult jays flew near the squirrel thereby diverting its attention.

After 20 to 30 min., the squirrel suddenly lunged and captured the jay with its mouth. Two adult jays attacked the squirrel with swoops and pecks and gave repeated distress calls. These calls were intense, high-pitched, rapid screams (one every 1 to 2 sec) similar in sound to "jeeah". The squirrel ran onto a nearby tree with the fledgling in its mouth.

Following the calls, 10 to 12 adult jays arrived and began to mob the squirrel. We approached the tree and observed the squirrel eating the fledgling. It rotated the dead bird with its front paws while alternately chewing the bird's head, wings, feet, and bill. Most of the mobbing jays soon left, but the two adults originally present remained and occasionally gave distress calls.

Twenty minutes later, the adults tended the remaining young much as before the squirrel attack and continued to do so for 30 min more. The adults repeatedly flew from branch to branch, or ground to branch within 10 m of the fledglings. During this period, fewer