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Nest Building by American Crows

by

Tom Reaume

Introduction

Various aspects of the nesting activities of the American Crow (*Corvus brachyrhynchos*) have been investigated. Good (1952) gave a general description of Ohio crows' nesting dates, tree species utilized and the materials of the nest. Emlen (1942) outlined his findings for colonially nesting crows in California, while Verbeek and Butler (1980) reviewed the benefits of helpers at the nests of Northwestern Crows (*C. caurinus*) in British Columbia. The cooperative breeding of American Crows was also described by Kilham (1984).

This article deals briefly with the spatial and temporal gathering process of the materials used in nest building by a pair of crows in Guelph, Wellington County.

Study area and methods

The Guelph Agriculture Centre is located along Highway 6, about 1 km north of Woodlawn Road in

Tom Reaume, P. O. Box 39, Ballinafad, Ontario N0B 1H0

Guelph. Situated on a modest rise, the Centre is surrounded by a mosaic of paved parking lots, lawn, weedy areas, hedgerows, orchards and shade trees. It is not a well-developed suburb. The nesting tree is in a moderately high-use area for vehicular and pedestrian traffic. Observations were made from a car about 50 m from the nest and the crows did not seem concerned about my presence.

The pair of crows (no helper) began nest building on or about 20 March 1987. Crows are most active at gathering materials in the morning, generally beginning shortly after sunrise. On 26 and 27 March I observed the gathering pattern of the pair for an hour each day. As the birds approached the nest I would try to determine what they were carrying in their bills. The locations and sequence were roughly marked on a hastily-drawn field map. The most distant locations from which the birds gathered nesting material were visible and distances from the nest were measured.

Results and discussion

Figures 1 and 2 indicate the areas and directions where the various materials were gathered by the pair of nest-building crows. The numbers (starting at 1) indicate the sequence in which the gatherings took place.

On 26 March 1987, I arrived at the nest site about 0545 h, several minutes before the birds left their coniferous roosting tree. The first trip to the nest was made at 0623 h, eight minutes after sunrise. A crow arrived with one twig in its bill. Since I did not see where the bird came from, this visit was not counted. I began my count with the next visit, at 0629 h (number 1, Figure 1). This first observation period was concluded 64 minutes later, during which time a total of 18 nest-building visits had been carried out.

On the following morning, 27 March, the first nest visit was made simultaneously by both crows at 0623 h, ten minutes after sunrise. Two crows observed on the nest was recorded as two visits.

The first four visits were omitted, either because I could not tell from which direction the birds came, or because their bills were empty. Even with an empty bill, a crow's visit could last about the same length of time as a trip with nesting material. The birds appeared active on the nest platform.

I began recording visits at 0652 h and ended the observation period at 0754 h. During two of the trips made during this period no nesting material was brought; these were not counted as visits.

In a total of 126 minutes over two days a total of 31 nest-building visits were made by the crows. The average interval between visits lasted approximately four minutes. The longest interval was about 12 minutes. The average length of a visit was 93 seconds (range 44 to 145 seconds).

Single visits to the nest were much more common than double visits. During a double visit the crows rarely landed on the nest together and at most arrived about two minutes apart. Often one bird went directly to the nest as its mate perched nearby on a tree. Usually the second crow would fly to the nest about 30 seconds later. It is probable that the second crow to the nest

Legend
n =crow nest
C =Guelph Agricultural Centre
P =Parking Lot
X =observation spot
7,8 =double visit, both crows to nest
3• =twig-gathering area
1 =grass-gathering area

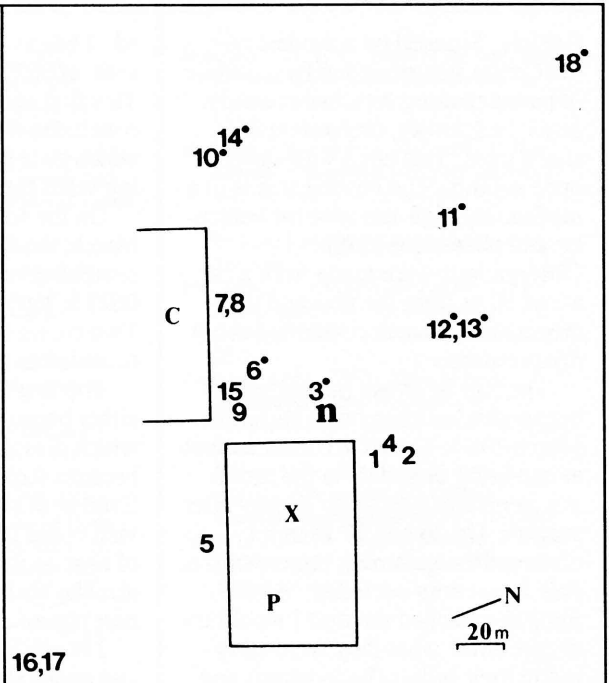

Figure 1: The location and sequence of 18 nest-material gatherings by a pair of crows in 64 minutes, 26 March 1987.

Legend
n =crow nest
C =Guelph Agricultural Centre
P =Parking Lot
X =observation spot
7,8 =double visit, both crows to nest
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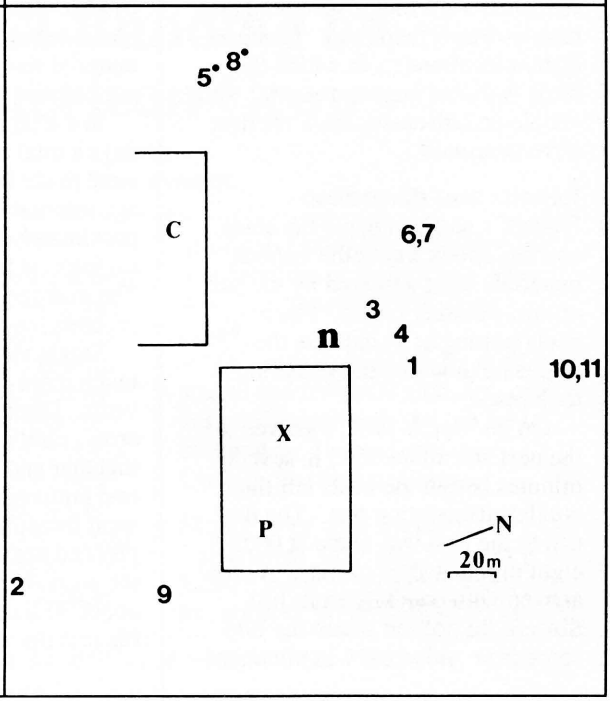

Figure 2: The location and sequence of 11 nest-material gatherings by a pair of crows in 62 minutes, 27 March 1987.

dropped off its materials while the other bird finished building. Kilham (1984) noted that where yearlings (helpers) are engaged, they often left their twigs for an adult to build with.

On leaving the nest, a crow usually flew off in the direction from which it would subsequently return with new material (grass, bark, leaves or a twig). Its mate, if perched nearby, would follow. A few structured bouts of caws were heard. No territorial disputes interrupted nest building, even though another active nest under construction was situated about 280 m away in the Marymount Cemetery.

As Figures 1 and 2 show, the crows usually gathered material from a different direction on each successive trip. After a nest visit a crow sometimes headed out 180° from the direction in which the previous trip was made. Some ground areas and certain trees were visited more than once in the course of an hour. Materials were gathered from locations ranging from 10 to 190 m away. The nesting tree itself was not a source of nest material.

Although dead twigs were occasionally gathered from beneath a deciduous tree, the usual practice was to break off live twigs from deciduous trees. Two pairs of Florida crows with helpers gathered sticks and other materials from the ground (Kilham 1984), although no mention was made of the birds breaking off live twigs. The crows I observed rarely obtained coniferous twigs. Deciduous twigs were procured in a characteristic fashion. The crow would land in the lower half of a tree and begin hopping from branch to branch looking for and then testing suitable twigs with a tug of its bill. Several twigs may be tested before one is broken off.

Grass carried in by the crows was of two types: cultivated lawn fragments, which would be in the form of a brown, roundish clump about 6-8 cm wide, and wild grasses which would extend out about 10 cm on either side of the bill like streamers. In one instance a crow walked and ran from clump to clump pulling and tearing off bits of wild grass 31 times before enough for a nest visit was obtained. Bark was stripped from fallen logs or living trees. Decaying leaves were gathered from the ground. One vine, estimated at 1.5 m long, was brought to the nest.

Conclusion

In theory and also in the name of efficiency the crows could make successive trips to one close tree to obtain twigs, but did not. The need for a mixture of nesting material obviously accounts for some of the variation in collecting strategy. However, by changing their direction and distance often, the crows can also "keep an eye" on their territory. This level of organization permits them to fend off intruding conspecifics and capitalize on unexpected food sources over a wider area.

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