## THE AMERICAN CROW.

## NOTES ON ITS HABITS : NOTABLY FEEDING, NESTING, ROOSTING, FLIGHT, RELATIVE ABUNDANCE, ETC., BY VARIOUS OBSERVERS IN WIDELY SCATTERED LOCALITIES.

"Corvus americanus is found throughout the United States with the exception of Southern Florida, where it is replaced by the sub-species *floridanus*; and the Central Plains and Southern Rocky mountain regions, where the American Raven (Corvus corax) abounds."

More or less abundant where-ever found as a resident or as a migrant, with but one common name, it is perhaps better known to a larger number of people than any other species indigenous to North America.

Held up as emblematic of the fallen, defeated, or unfortunate, the embodiment of cunning and cruelty, and published throughout the land as the personification of a knave and thief; is it any wonder that the ornithologist hesitates to defend the bird whose character is painted as black as its plumage? Like the Blue Jay, whom ignorance and superstition has accused of "carrying sticks to the devil," he is looked upon as the representation of evil, a sort of visible demon; and if he is not just going into mischief, he is popularly supposed to be just returning from it. Persecuted on every hand for many decades, in the East, it is a wonder that the species has not become exterminated. It has certainly decreased in Southern Pennsylvania, though almost imperceptibly, during the last fifteen years. Harmless, and even beneficial two-thirds of the year, prejudice against it begins to wane.

It is not my aim to justify the destruction wrought by these birds upon the cultivated fruit, grain and vegetables, or the eggs and young of wild and domestic birds, for I know it to be considerable at certain seasons of the year; but I fully believe the benefits derived from their destruction of injurious insects, rodents, etc., and their work as scavengers, largely offsets the damage done by them, if it does not indeed over-balance it. This applies to such districts as do not contain an over abundance of the birds.

To the bird's habitual watchfulness and acute senses, the situation of its nest, and to its breeding in the busiest time of the year, can be attributed its abundance to-day. Driven from the field by the hundred and one devices of the husbandman, shot, trapped and poisoned, they will continue to play the part Nature intended they should, and can only become extinct with the extermination of that which gives life to the country --the timber.

We are indebted to the pioneer ornithologists, and to some of the presentday popular writers (the latter making no display of scientific attainments) for almost all we know of the habits of this and many other common species. A well prepared bibliography is beyond the scope of this present article, and the following original notes on the general habits, flight, food, etc., contributed from widely scattered localitics, will unquestionably be acceptable to those interested from a scientific or economic standpoint.

Dr. William Bringhurst, Philadelphia, Pa.-"The American Crow remains with us throughout the Winter season, retiring on the accession of severe weather, to thickly wooded, hilly or mountainous regions. I live in a populous part of the city. At sunset Crows may be seen winging their way to their roosting places in New Jersey, returning in the morning and retiring to long distances inland, though some may remain nearer to us. The pine woods of New Jersey affords them a safe retreat. Reedy Island, at the head of Delaware Bay, being solitary and at a distance from the haunts of man, used to be a famous resort for them, and likely They are astute birds, keeping well out of the way of man, is vet. seeming to know a gun from a stick. A pair built a nest in Logan Square and probably raised their young. (See Situation of Nests.) As birds, animals, etc., are safe from molestation in these public parks, and can rear their young free from danger of attack by man, they soon acquire a degree of confidence."

John A. Bryant, Kansas City Mo. — '' To the public, the best known bird of all our species is the Crow. This species is noted for its thievishness, and its high degree of cunning seems to go beyond mere instinct. It feeds principally on carrion, fish and insects, and the young and eggs of both birds and reptiles. Last Spring I was a witness to this bird's great voraciousness. I was driving along a country road when I noticed a Crow fly down into a farm yard, close to a hen with a number of chickens about two weeks old; it singled out a straggler, and deliberately pecked it two or three times, entirely disabling it. The chick's cry of distress brought the angry parent to the rescue. The Crow was driven away a few paces; but a moment later, when the hen's attention was drawn away from the wounded chick, the Crow seized his struggling victim, and flying a short distance, devoured it.

"As another case of this species' greediness, as well as its acute sense of

danger, I will relate the following experiment and its result. One day last May, while fishing, I noticed a Crow in the top of a dead tree, fifty yards or more away. It was constantly cawing and apparently watching Remembering the old darkey's adage, "A Crow knows a gun," I me. thought it a good time to test the saying ; so picking up my wooden fishingrod case, I walked toward the tree where the bird was perched some sixty feet from the ground. Having reached the tree I walked around the trunk and back to the creek, where I had left my gun, without the bird taking wing. On reaching the creek, I substituted the gun for the rod case, and again started for the tree. I had scarcely taken a dozen steps ere the Crow decamped to another tree; nor could I approach within gun shot. I then placed my gun on the ground and attempted to get closer, but I found it as wary as before; the sight of the gun had destroyed all former confidence. On my return to the creek, my companion, who was further up the stream, called to me to bring my gun. I immediately complied with his request, leaving the fish I had caught submerged in the water on a string. I was absent probably an hour. On approaching, I observed a Crow sitting on a tree above where I had left the string of fish. Suspecting some mischief from its excited actions, I ran forward quickly to see what was up. The Crow cawed rapidly three or four times and flew swiftly away. Simultaneously from the waters edge, arose two more Crows, acting on the signal given by the sentinel in the tree. As they were eating the fish below the creek bank, they could not possibly have seen or heard my approach. I found nothing remaining excepting ten eyeless heads strung on the cord, the Crows having pulled the string from the water and eaten the fish on the ground.

"The great Crow roosts of the Middle States, famous in pioneer days, seem to have diminished both in number of roosts and individual birds composing them. South west of this city there is quite a large roost, some members of which (400 or more by actual count) pass daily over the city to the Missouri river banks and sand bars, where they glean the refuse and debris washed ashore from the city. They congregate in November and disperse upon the breaking up of the Winter frosts. As the season advances, a half dozen or less may be seen in some pasture or marshy place, where the grass is short, feeding on all kinds of insects and their larve, crustacea, and in fact all animal life too weak to resist or avoid their rapacity. For several seasons past, a flock has frequented a marshy pasture, close to the public road near to the river. Among them could plainly be seen a pure white specimen. So often was it seen, that it became a matter of publication in our daily papers. Many attempts were made to secure this 'White Crow,' but none were successful, as the wary cunning of the 'Black Crow' was predominant."

Lynds Jones, Oberlin, Ohio, -- " In Ohio the Crow is the terror of the corn field, and has been hunted until there is no getting near him. It is not strange if his nesting habits should conform to his general habit of watchfulness. Nests are often one hundred feet up in some such tree as shellbark hickory. I have never found a nest that could be reached without irons. In Iowa, the Crow is not an enemy to agriculture, and so is not hunted to any considerable extent, but he is nevertheless wary and not easily taken. Flocks are usually composed of less than ten individuals, but I have seen hundreds of Crows gathered together seemingly for some special purpose. There is always a prodigious cawing and much changing of position among the individuals at such a time; but when the flock rises, it disperses in all directions and apparantly never comes together again, unless at some other rendezvous. It may be simply a coincidence, but the flocks that have come my way have appeared about noon on an early Spring day. For so large a bird, its nest is remarkably near the ground. I have found many not over ten feet up in a thorn bush or scrubby oak."

Arthur H. Norton, Westbrook, Me .--- "My observations on the nesting habits of the Crow have been made from Rockland to Portland, Maine, in several localities, but no where more than ten miles from the coast. Near Rockland, especially on the small islands of West Penobscot bay, and also the islands of a portion of Casco bay; the most constant features of the landscape are the dwarfed-spruce woods; but as we retire from the tide mark, on the mainland, we find a diversity of pine, oak, beech, etc., affording the bird a choice of nesting places. The nests that have come under my observation have invariably been placed in species of evergreen trees. The Crows have a habit which seems to be constant, when their nest is nearly completed, of calling in the low, imperfect voice of their young, as we hear them in July. By this means, I have located most of the nests that I have examined." [Another observer from the same state makes note of this. Can it be a peculiarity of the Maine bird alone ?-F. L. B.] "While common throughout the belt, it does not seem to breed abundantly in any portion of it. Each woodlet or wooded island may be the breeding station of from one to five pairs. Metanic Island, in Penobscot bay, annually supports about five pairs. This number may be stimulated by the desire to pilfer the Night Herons (Nycticorax nycticorax narrius), which also breeds here in large numbers. On Crow Island in the same vicinity, the densely foliaged white spruce (Picea alba) is the chief form of vegetation, and in these trees the birds formerly nested, building very low (about ten feet from the ground). The Island is uninhabited and seldom visited by man. In 1885, the Raven

(*Corrus corax principalis*) took possession and no Crows nested there that season. There is constant warfare between the two species."

H. R. Buck, Wethersfield, Conn.-" Crows are very common with us at all seasons and especially so in Winter. Then they collect in large flocks, probably recruiting from much further north, and keep together pretty well until the breeding season. As a rule they spend the nights in the meadows of the Connecticut River, roosting in large numbers in the black oak trees, which are abundant in many places. At such times they are perhaps less watchful than in the day time, but nevertheless they always have guards posted, day and night. They can seldom be approached without the guards giving the alarm. Some twenty years ago my father shot sixteen by firing the contents of a double-barreled gun into a tree where they roosted. About dawn they begin to stir, and from sunrise until noon there is a steady stream of them flying to the neighboring hills, where they pass the day. Here they feed on berries, seeds, and almost anything they can pick up. They undoubtedly do good by killing larvæ and grubs. which they find under bark and leaves. Warm brooks are among their favorite feeding grounds, and they sometimes come quite close to farm yards in search of such scraps as may be thrown out. When the Spring thaws come, they may be seen almost constantly feeding on the edges of the melting ice, sometimes in company with the Herring Gull (Larus argentatus smithsonianus) which often comes up the river. Here they find acorns, berries, and the garbage from towns further up the river. They also collect in large numbers about the city dumps, showing a great fondness for carrion, and all refuse found in such a place.

"As the season advances, they abandon their routine habits, break up into smaller parties, and finally into pairs, when they set about the more serious business of nesting. In this locality they seem to like the sunshine, and avoid the deeper woods. When the eggs hatch, 'then the trouble begins' for the farmers, as the corn comes up about that time and the young birds must eat. I do not think the crows dig up the kernel before it sprouts, but from the time the blade first shows above the ground until it is three inches high, they seem to consider it their lawful property. They pull up the sprouts for the kernels at the end. The Crow does great damage in this way, especially in isolated fields, where the whole crop has sometimes to be replanted. There are two methods in use here for preventing this loss. The first and oldest way is to stretch white cotton strings around and across the field about six feet above the ground. The Crow proverbially is a cunning bird, and when he sees the strings, he expects a trap and seldom goes into the fields. This way has been largely given up on account of its inconvenience and cost. The way now followed is that of coating the corn with tar. This gives a bitter taste to the kernel, so the Crows let it alone after pulling up one or two spears. The usual way of preparing the corn is to pour hot water over it and let it soak awhile; then for every bushel of corn, put in perhaps a half pint of 'North Carolina tar,' as it is labeled This is better than the coal tar The water is then poured off and because it does not have to be melted. plaster, ashes, or sand is mixed to keep the kernels from sticking together. This hinders the growth probably a day or two, but it is a perfect protection from the Crows. Last Spring our tarred corn gave out and we finished the last row of one piece with clean corn. After it had come up, we found that the Crows had pulled every spear of this corn, while the tarred corn at its side was hardly touched. The damage done to corn is not confined to the first few days. When it is in the milky state, they tear the husks and eat off the kernels at the tips of the ears. The harm done in this way is not great ; the Purple Grackles, Red-winged Blackbirds and English Sparrows doing vastly more damage than the Crows. On the other hand, the Crows undoubtedly eat injurious insects, mice, moles, snakes, etc. April 15, 1893, I saw a Crow kill a grass-snake. It would have eaten the snake had not some boys frightened it away. During Spring-plowing the Crows follow in the furrow to get the grubs that are turned up. Crows are much less abundant here to-day than ten years ago, and I am told that thirty years ago there were twenty where now there is one."

Frederick M. Dille, Denver, Colo, -- "The American Crow breeds in considerable numbers along the courses of the South Platte and its tributaries in North-Eastern Colorado, although confined principally to the Valley of the Platte. I have found it breeding in the near vicinity of Greely, but from a point about eight miles below the town and down the river I used to find their nests quite abundant. In the groves of native cottonwoods, which are to be found scattered along the streams, the nests would be located; but a sufficient number could rarely be found in the same grove to justify one in saying that it colonizes to any extent. On an island, however, of about two acres extent, located in the middle of the stream, I found at one time five nests all containing eggs or young. The trees here were not as tall by half as those on the main shore opposite, but I suppose the Crows considered it a more secure locality for their nests, and I thought the same at the time, as I waded through the turbulent stream up to my waist in the water, in order to reach the island.

"There have been years when I have traveled not a little up and down the river without finding a nest, nor could I hear of any, by inquiry, from people living at lower points on the river. These periods of total absence from their favorite localities, would usually follow a mild, open Winter, when the birds stayed with us all Winter, roaming around the farming districts in large numbers, but disappearing as the breeding season approached. Some Winters they stay throughout, and some seasons they breed here, but they seem to lack that fondness for a certain locality, a return to which, Spring after Spring, is characteristic of so many of the smaller birds." [In the East, the evidence tends to prove that the Crow will become attached to a certain locality and will nest in the immediate neighborhood year after year; however they are not so constant nor stubborn as our larger Hawks and Owls, nor as persistent as our Warblers, Thrushes, etc., but as a rule will speedily move their quarters if robbed a few times.—F. L. B.]

W. Harvey McNairn, Toronto, Canada.—"In the Spring or late Winter, just about pairing time, the Crows are here in immense numbers. Sometimes one can see a flock of several hundred. I am of the opinion that Crows from all parts of the country come here to spend the Winter. There is plenty of brush, nearly two hundred acres in a park, where they are protected; but comparatively few stay through nesting time. Sometime ago I found an old Crow that had become blind, and afterward heard of several other similar cases; judging from the fuss the others made and the birds sleek appearance, he had been fed by his comrades." [Doubtless the cause of the bird's blindness can be attributed to the excessive coldness. Several instances were reported last Winter (during a very cold spell) of Crows having their eye-balls frozen and bursted, in Chester County, Pa.—F. L. B.]

Reuben M. Strong, Wauwatosa, Wis.—... For several years the Crows had a roost in a tract of timber near here, occupying it during late Winter and early Spring. In the Spring of 1889 this roost was changed to a grove of conifers on the northern side of the bluff. Several hundred Crows gather at this roost at one time, and in their present location greatly disturb the patients in the sanitarium on the same bluff. A few spend the Winter here, but the bulk does not appear until after the middle of March. Old settlers say that birds of this species were comparatively rare thirty years ago They seem to be increasing in numbers. Civilization seems to favor them by furnishing them with an abundance of food, and their habits render them comparatively free from its dangers."

John C. Brown, Carthage, Mo. —" Nests are often found in maple groves, the birds nesting in colonies of six to a dozen pairs. The nest is usually so large that the female cannot be seen from below, while incubating. There are from two to six eggs in a set; in one case seven eggs were found. In this instance, two females must have deposited their eggs in one nest, as four were of different shape and color from the remaining three. A number of 'runts' have come under my notice, the smallest of which was the size of a large Meadow Lark's egg."

W. S. Cruzan, Sulphur Springs, Texas.—"Crows are very numerous in most parts of this state. The American Crow breeds most abundantly along streams in the central part of the state. The streams are skirted with timber, composed chiefly of pecan, elm, and hackberry. During all times of the year, numbers may be seen. They gather the pecan nuts and eat them, also storing them away for future use. They will often fly from a pecan tree with nuts, to a place on the prairie near some bushes or weeds, and deposit a little pile of nuts, often as much as a pint or more."

Ellis F. Hadley, Dayton, Oregon. --"Crows are very common in the Western part of Oregon, found in flocks in Winter. They live on grain, which they gather after it has been sown, even pulling up the tender shoots. I have seen them come down and eat with the chickens, in flocks of from twenty-five to fifty individuals. They devour a great many insects and worms and are therefore beneficial to the country."

Samuel L. Bacon, Erie, Pa. — "In the Summer of 1886, by shooting at a Crow which was carrying something, evidently a heavy load, I induced it to drop that something, which proved to be a full grown Flicker just dying."

Robert R. Scorso. Afton, N. J.—... The Crow is among our commonest birds, yet its real history is but little known. The farmer generally considers it a costly nuisance, but the scientist is not sure of that. The farmer knows it feeds on grain, and the scientist knows it also feeds on harmful insects. The Crow is largely concerned in the distribution of the poison ivy (*Rhus toxicodendron*) and poison sumach (*Rhus venenata*), although this bird is not the only species concerned in this work."

In the reports just given, no mention has been made of our sable friend's propensity to appropriate the eggs of various domestic fowls, particularly those usually nesting in the field or woods, as the guinea and turkey. When once a nest is found, the happy possessor of the secret is a regular and punctual customer. When a boy, it was one of my many duties to "keep an eye on the turkey hens" during their nesting season, for they would "steal their nests." They generally sauntered toward the brambly fence corners nearest the woods, in an unconcerned manner, slipping quietly on their nests when no one was looking. Often I observed a "Black Crow" at the top of a neighboring tree, impatiently hopping from one foot to the other, spreading and folding his wings, or else uttering a few low, contented "caws" to himself. I often imagined I heard him "smack his lips" in anticipation of his omelet, and he usually got it in spite of all I could do.

I do not believe the robbing of wild birds' nests by this species is nearly as common as we are led to believe ; at least I have not found it so, although I have been witness to an occasional raid made by this bird upon the nests of the Purple Grackle and Robin.

I have examined the stomachs of a number of young in the nest with the following result: April 30, 1892. Four large young. Time, 10 a. m. No. 1 contained broken bits of corn, a leg bone of a meadow mouse, several grubs, some weed seeds, and refuse from barnyard manure. No. 2. Three bones of a mouse or some other small rodent, broken bits of corn, two grains of oats, and some mouse hair. No. 3. Three imperfect grains of corn, three small bones, and grubs, worms, and refuse from the barnyard. No. 4. Grubs, bones of small rodent, three grains of corn, and some weed seeds.

April 30, 1892, 12 noon. Two young, one day old. White grubs only.
May 12, 1892, 7 a. m. Five young, six days old. No. 1. Large quantity of earth worms. No. 2. Earth worms and three beetles. No. 3. Earth worms and three beetles. No. 4. Earth worms and one piece of corn. No. 5. Earth worms and three beetles.

May 8, 1894, 11:30 a. m. One young, two days old. Larvæ of some large insect, probably that of a moth.

When a Crow has tasted the tender chicken, he is in some respects like the man-eating tiger, for he will return again and again until he is shot, or his intended victims are placed well out of his reach. Verily, while "meat is at hand he must eat." If the farmer and poultry fancier would encourage that sturdy little warrior, *Tyrannus tyrannus* (King bird) to nest about the place, they would require no other safeguard during the nesting season at least.

During the Winter of 1893 and 1894, I often had occasion to be in a certain little valley that lies on the borders of Chester and Delaware Counties; many times I have seen the vast flocks just setting out for their morning meal. During the mild weather they roost in the hard-wood timber of this neighborhood. The birds usually fly in an irregular train with no particular order, but I have noticed exceptions to this. One morning just at daybreak, I observed the advance guard of about five hundred rise simultaneously from the woods to my left, and without a single "caw" fly over my head. They were about six deep, the long front dressed with military precision. They appeared to be on the same level. This battalion was followed by four more flocks, all rising successively

from different portions of the woods or from separate groves; all in the same order and about five hundred yards apart. They flew for some distance, probably half a mile, before the individuals on the left swung ahead and led their respective troops. There were not less than twentyfive hundred birds, probably more. At night they retired to the above mentioned timber in one long irregular train; but it is my belief that each flock retained its individuality throughout the day. This large concourse of birds probably represented a small portion of Chester, Delaware and Montgomery Counties; it being highly improbable that there were any migrants from the North or from the mountains of the bordering counties, owing to the almost entire absence of sheltered roosts of evergreen trees. During the colder, and stormiest period of the Winter, these flocks retired to the scattered groves of conifers and cedars of the three counties, usually breaking up in smaller companies, from necessity.

## NIDIFICATION.

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SITUATION.—The Crow usually chooses a tree situated as deep in the woods as possible, or in some quiet little grove of tall trees, where it can nest free from molestation and yet be near to its chosen feeding ground. The number and variety of eligible situations, the individuality of the bird, the *degree* of hostility prevailing in its neighborhood and the consequent measure of activity displayed by its enemies, having a large share in influencing the selection of a nesting site. Now and then a pair bubbling over with boldness or over confidence in man, will build in an isolated tree, usually but not invariably an evergreen, in the middle of a field or in an apple orchard, Mr. Frederick M. Dille collected a set of eggs from a tall cottonwood, in the midst of a dense grove, on Clear creek, directly on the outskirts of the city of Denver. He says : "I was greatly surprised at finding a pair of Crows breeding in such close proximity to a large city; but the birds were very quiet and retiring, as if they realized the delicacy of their situation." Mr. W. N. Clute, Binghamton, N. Y., cites two instances of this species nesting within the city limits. Dr William Bringhurst, Philadelphia, Pa., takes note of a pair building in Logan Square, on one side of which stands the Academy of Natural Sciences, on another a grand Cathedral, etc., every front being built around, and the square much frequented. At a later date, the same gentleman informs me that he has *heard* of a nest established among the trees of Independence Square, right in the heart of the oldest portion of