THE RAVENS OF THE STATE OF WASHINGTON

WITH NINE ILLUSTRATIONS

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In the state of Washington the ravens may be said to be fairly well represented, although their distribution for the most part is decidedly local. They are to be found in three very distinct zones, namely, the ocean coast, the mountains, and the sage-brush desert country east of the Cascade Range. Their precise racial features are somewhat varied. Specimens from the east side are typical *Corvus corax sinuatus,* while those from the coast show a slight tendency toward the northern form, *principalis*, but may more safely be classed as *sinuatus*. These

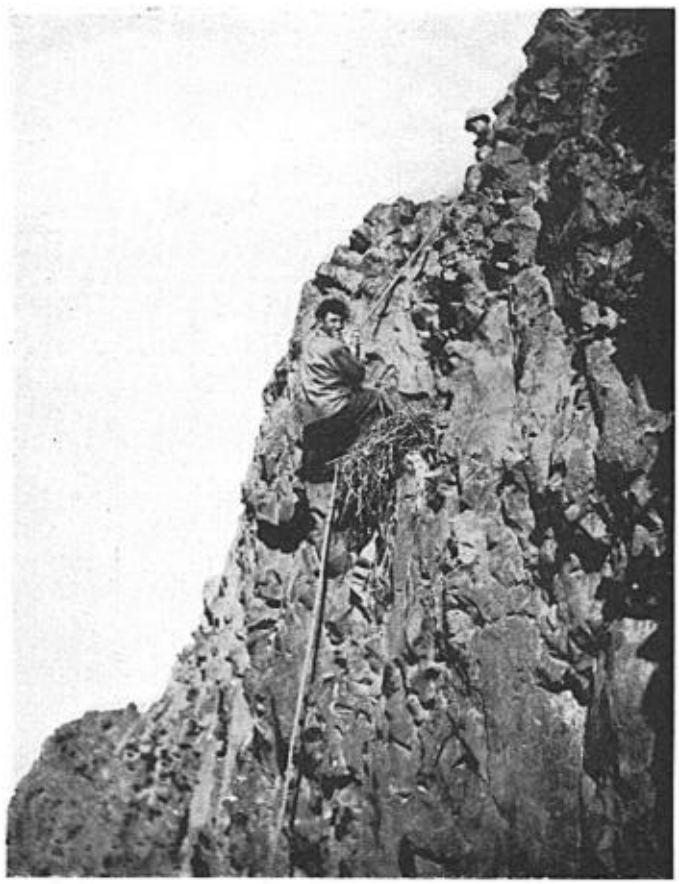

Fig. 61. A CLIFF NEST OF AMERICAN RAVEN IN EASTERN WASHINGTON.

identifications have been kindly determined for us by Dr. J. Grinnell. Owing to their comparative rarity and extreme shyness we have never had an opportunity to obtain any specimens from the mountains, which stand midway between the two districts mentioned, so that in the case of the mountain birds there is some uncertainty, although there seems little reason for any difference existing. It is, of

course, to be understood that the birds breed and are resident in all three localities, very seldom straying to any great distance. This characteristic is so strongly marked that we have only one record for a bird in the country lying between the mountains and the coast. We wish here to express our thanks to Mr. E. A. Kitchin, of Tacoma, Washington, for the use of specimens of the coast birds, which he collected at Westport, Gray's Harbor County, Washington. The east-side birds were personally collected by the writers of this article. None of them even closely approaches the heavy beaked birds that we have from Alaska, and which may be called typical *principalis*.

Little is known about the nesting habits of the ravens in this state until we come to the sage-brush country of the east side; but there we have been so fortunate as to have had almost unlimited opportunities to find their nests, taking into con-

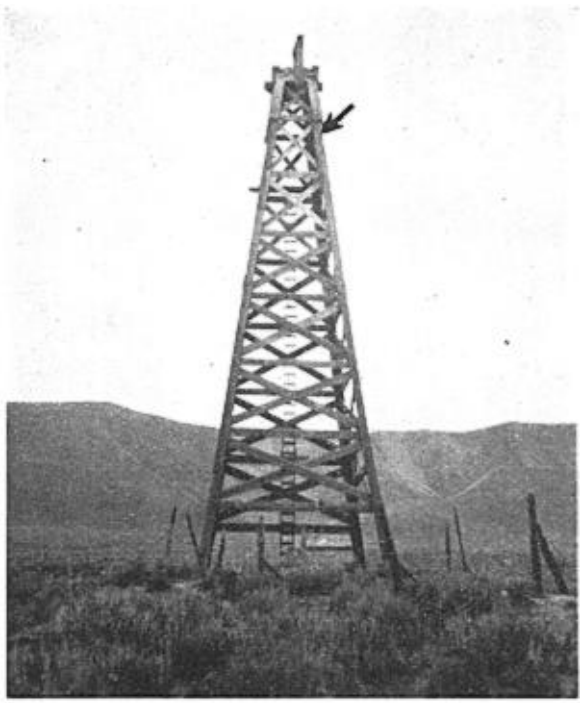

Fig. 62. NEST OF AMERICAN RAVEN ON OIL DERRICK AT POSITION INDICATED.

sideration time and distance to be travelled. The bird student would be almost helpless without the aid of an automobile, for the nesting sites are often very widely separated, so that the work is by no means either an easy or an inexpensive one.

The sage-brush breeding range may be divided into two distinct areas; first, the territory where outcroppings of rock ranging up to cliffs several hundred feet in height are the favorite nesting sites. Here the nest is occasionally built in a "pothole" in the cliff, but far more often on a ledge projecting from the rocky wall. This section of the country is in most parts liberally watered by the Columbia and Yakima rivers, and various ponds, lakes, and marshy tracts.

The other area of their breeding range is so utterly different that, even after several years study of the conditions, it still seems to us "the stuff that dreams are made of". We refer to a flat table-like country, many square miles in area, that is known as "The Horse Heaven", named many years ago by the Indians because of the abundance of bunchgrass upon which they fattened their horses when feed was scarce in the low country. The Horse Heaven rises abruptly between the Yakima and the Columbia rivers, standing some three hundred feet above the surrounding country. It is practically waterless, with no cliffs or trees, excepting a few scrubby examples that have been planted by ranchers. Practically the only natural vegetation consists of sage-brush, tumble-weed, and the famous bunch-

Fig. 63. NEST SITE OF AMERICAN RAVEN ON PLATFORM OF WINDMILL AT ABANDONED RANCH.

grass. Many years ago the land was exceedingly fertile, with the result that thousands of acres were planted to wheat, which supported large and flourishing ranches. However, climatic conditions changed for the worse and a very large number of the ranches were given up, the houses and schools deserted, and the wheat fields reverting to their former natural conditions. A considerable number of cattle were left behind, many of which die every winter. There are innumerable jack rabbits, ground squirrels, mice, horned toads, and insects, not to mention much small bird life, all of which forms an almost unlimited food supply of the very kind most desired by the ravens. Consequently, with their customary wisdom, they evidently

decided that here was an opportunity that was not to be neglected, and a number of pairs have made the locality their home the year around.

As their natural nesting sites are entirely lacking, the ravens here had to turn to what had been left behind by mankind, and, with all the wisdom that has been accorded these birds by history and fable, they at once adapted themselves to the conditions that surrounded them. In travelling over many miles of this country we have seen the following varieties of nesting sites: Several different parts of windmills; rafters in small one-room shacks; in barns; in various places in houses;

Fig. 64. NEST SITE OF AMERICAN RAVEN ON A DESERTED HOUSE IN EASTERN WASHINGTON.

one a few feet up in a small tree; and one on top of a bookcase in a school house. This last lent an amusing significance to them as birds of wisdom. Only one nest was built on the outside of a house, this being placed on a porch directly above a small bay window. So it seems that most of the birds figured out almost at once that the protection afforded inside was greatly to be preferred to outside sites.

In this connection Mr. C. E. McBee, who lives in that section and has made a close study of the ravens there, has been successful in some most interesting experiments with them. One great trouble for the ravens seemed to him to be that there were few suitable locations in most of the houses for placing the nests. Consequently, he put boards across the rafters in several of the deserted dwellings, the

result being that the birds built their nests on these boards in a gratifying number of cases. Indeed, the ravens have adapted themselves to more different types of nesting sites than any other bird of our acquaintance. In the low, river country, where natural sites are scarce, we have found the nests on high tension poles, oil derricks, telegraph poles, and on the beam of a railroad bridge. One of the last mentioned was only twelve feet from the ground and two feet below the rails on a small bridge of the Northern Pacific Railroad. As we drove up toward this nest a freight train of some fifty cars was rumbling over the bridge, making all the disturbance that is possible only to a freight train. It did not seem possible that the bird could sit through it, but, after it had passed, we drove up and there was the raven sitting as quietly as if nothing had happened. A careful examination of the six eggs showed that all were fertile, in spite of the great vibration.

Another interesting proof that these birds do not mind disturbance in and around the nest was where a windmill had been used as a site. For some strange

Fig. 65. THE NEST OF A PAIR OF RAVENS WAS SITUATED ON A RAFTER INSIDE THIS OLD HOUSE AT THE POSITION INDICATED.

reason the nest had been built around the plunging rod, which, the mill being in working order, went up and down through the outer wall of the nest whenever the wind happened to be blowing. It did not seem to disturb the bird in the least, as the seven eggs that the nest contained were all well incubated. The only nest we have seen in a tree in this section of the country was found by Mr. McBee a few feet from the ground in a scrubby little tree that grew in the front yard of a long abandoned ranch house. This seems rather odd, as there are hundreds of large trees along the river bottoms that would seem admirably adapted to the purpose. In fact, these trees are the regular nesting sites of crows and some of the larger hawks. However, for some reason best known to themselves, the ravens scrupulously avoid the wooded regions along the rivers.

The nest, as a rule, is just about the same size and cubical contents as a bushel basket. The material used is almost literally anything that strikes the fancy of the birds, although the common types are composed outwardly of coarse sticks and twigs for the most part. However, we have several times found them built almost altogether of different kinds of wire, while at other times the ribs of sheep and the smaller bones of cattle form a large percentage. One nest contained a large jawbone, with most of the teeth intact, and the wonder is how the bird

managed to carry it. The cup for the eggs is a thick-walled mass of wool, hair, and the soft bark of the sage-brush and greasewood, with any additional soft item that the fancy of the birds may dictate.

As a rule the female does most of the work, but the male usually follows a short distance behind her. A curious feature of their nest building is that they never pick up a piece of material that has fallen from the nest, even though they may have to fly for miles to get more. A truly astonishing instance of this was found in a little shack about ten feet high and fifteen feet square. The nest was built on an irregularly shaped board that was placed on the rafters about seven feet above the floor. It is hard to say just how many attempts had been made to build a nest, but, owing to the shape of the board, all of them had fallen to the floor during the process of construction until finally the last attempt was a success. As a result the floor beneath the nest was one great mass of almost every imaginable

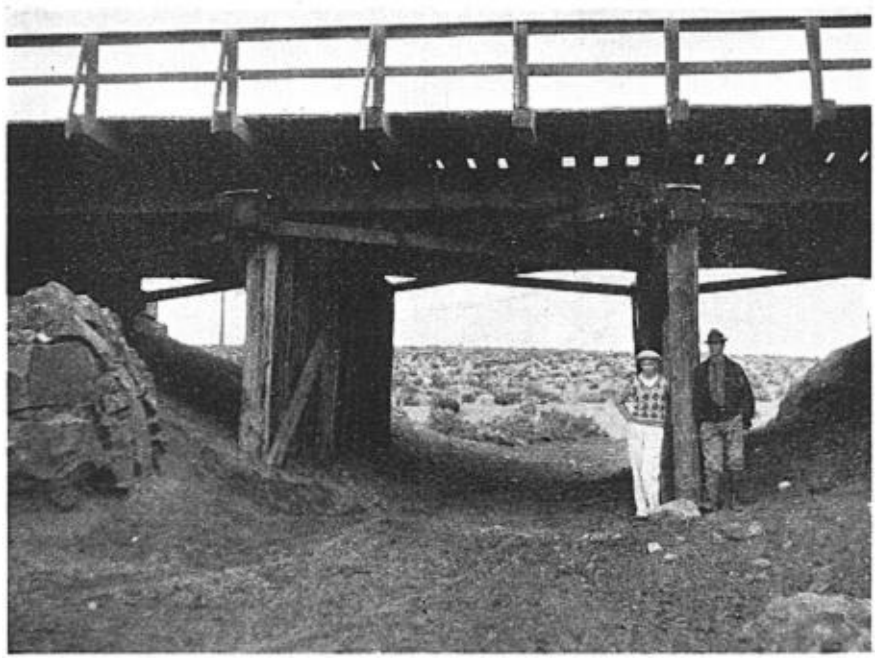

Fig. 66. NEST OF AMERICAN RAVEN ON RAILROAD TRESTLE. BENEATH THE NEST, C. E. MCBEE AT LEFT, F. R. DECKER AT RIGHT.

sort of material that could be found for miles around, there being included dozens upon dozens of bones of many kinds. In all we estimated that there must have been between twelve and fifteen bushels of material, showing how pertinaceous these birds are when they have once decided upon a site for their nest. This nest contained seven eggs, proving that the long delay in finally completing the structure had not interfered with a fine large set.

Nest building frequently begins early in March, and full sets are not infrequent by the latter part of that month, but some seasons show them to be considerably later as a whole. The first week of April is, perhaps, the best average date. Should their first set of eggs be taken another is laid, usually in the same nest; and in some

cases three sets have been laid in the same nest, with intervals of from seventeen to twenty-two days between sets. Sometimes the same number of eggs is produced in each set, but often the second and third sets will contain one egg less than the first. We have found that one egg is deposited daily until the set is complete.

It is fairly safe to say that everybody knows the variety of coloration exhibited in the eggs of the crow. Perhaps the best description of a series of raven eggs would be to say that they precisely resemble a series of eggs of the smaller bird, exhibiting the same variety of greens in the ground color, as well as the same variation in markings. They are also subject to exactly the same variation in shape; but the size is of course larger, although frequently not as much larger as one might

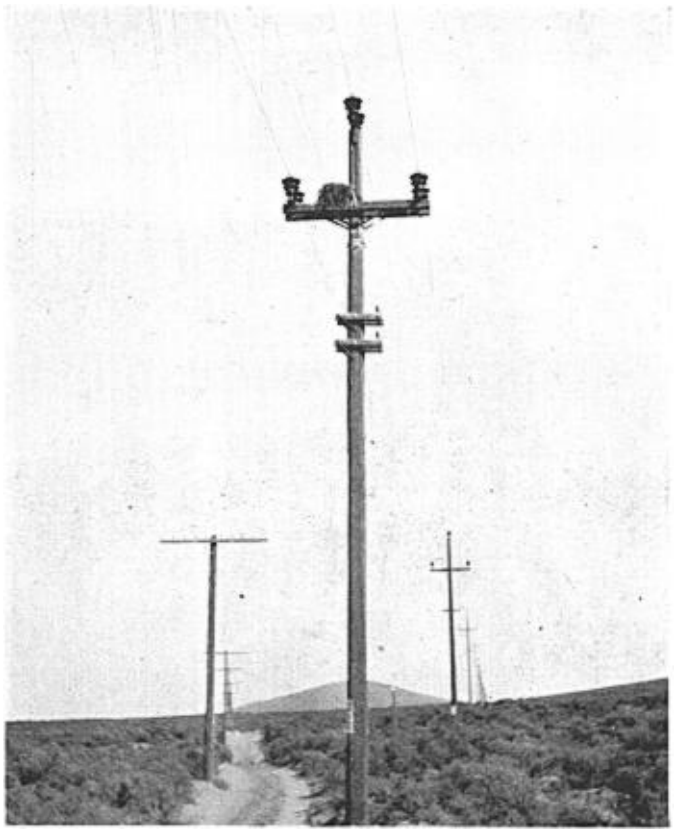

Fig. 67. NEST OF AMERICAN RAVEN ON HIGH-TENSION POLE IN EASTERN WASHINGTON.

expect from the size of the birds. Normal eggs vary in size from 1.90 x 1.23 to 2.01 x 1.35 inches. In fact the eggs seem decidedly small for so large a bird.

In their behavior around the nest ravens are, like most of the Corvidae, exceedingly silent unless the nest be disturbed. They are as a rule very secretive also, except when the nest is built in a house, in which case the male bird is fond of perching on the ridgepole of the building. Even when the bird is not there himself, his tell-tale droppings on the roof betray the secret of the nest inside. When hunting for nests that are built in houses we usually drive in the automobile from house to house and blow the horn. If there is a full set of eggs, the

female always responds to the signal by flying out of some window. One nest that we found was built on the top of a bookcase close to the door in an abandoned school house, but still the bird preferred a window as a means of exit. After the nest has been found and is being examined the birds are usually wild; indeed they seldom allow close approach to the nest before leaving it. The loud croaking of the female generally brings the male to the scene, when both birds fly about overhead, giving voice to their displeasure by a most singular variety of calls, as well as by doing feats of tumbling in midair that would put to shame the far-famed tumbler pigeon.

As might be expected, occasionally one pair of ravens will be found that acts quite differently from most of the others. Such a pair coming to our notice

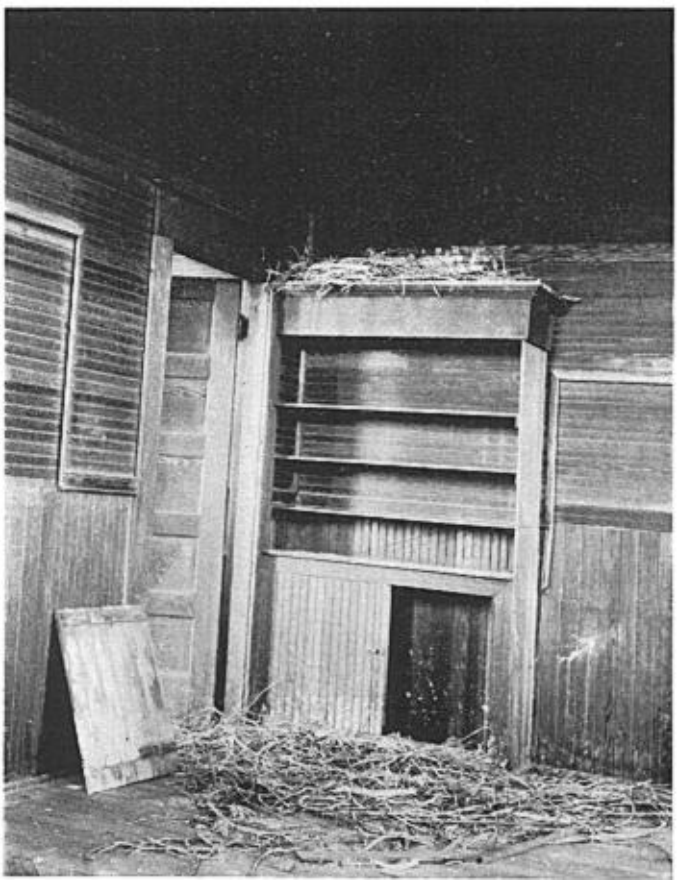

Fig 68. RAVEN'S NEST ON BOOKCASE IN ABANDONED SCHOOL-HOUSE IN EASTERN WASHINGTON.

had its nest about forty feet from the ground on the ledge of a cliff. The female did not flush until we were directly under the nest, and, as usual, her croaking soon brought the male. After the usual demonstration of tumbling, both birds came and perched on the cliff only some fifty feet away, where they gave the most impressive series of calls we had yet heard. They gave an endless variety of creaks and croaks, quacked very much like a Mallard duck, bawled like a cat, and,

in short, made it exceedingly easy to believe that there would be little difficulty in teaching them to talk quite as well as the famous birds of Edgar Allen Poe and Charles Dickens. Individual birds are undoubtedly much more gifted than the general run, as far as their vocabulary is concerned, this having been demonstrated to us in numerous instances; the trait of mimicry is probably more fully developed in some than in others.

The raven's bill of fare is almost endless, consisting of the flesh of animals more or less decayed, small mammals, young birds in or out of their nests, insects in both the mature and larval stages, green vegetation, berries, and the eggs of all birds excepting those of the Prairie Falcon. The exception made in the case of this last mentioned species is a never failing surprise to us and we have never seen it broken. The two species frequently nest close together in the same cliff, the falcon often using the last year's nest of a pair of ravens, thus forcing the latter to build a new nest for their own use. If the eggs of both falcon and raven are taken they will often trade nests for their second layings, but the rule

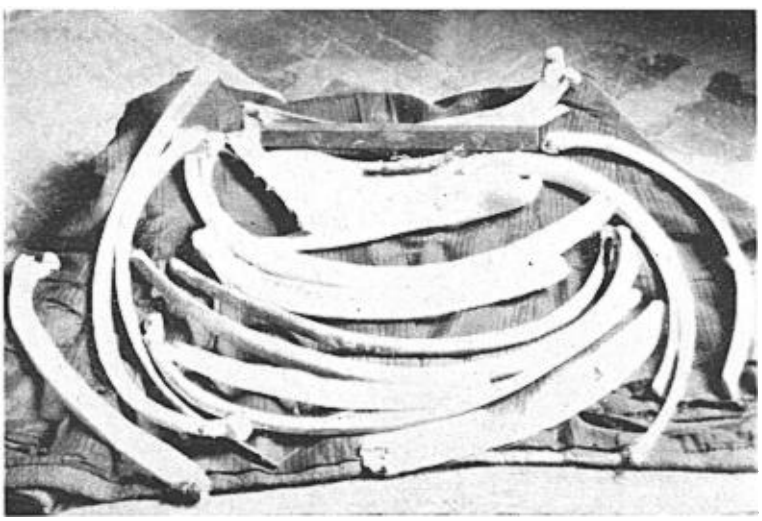

Fig. 69. SAMPLES OF MATERIAL COMPOSING A RAVEN'S NEST IN EASTERN WASHINGTON.

of "hands off" (beaks off, is more appropriate) is always strictly observed, much as the patience of both pairs of birds must be tried. The falcons, on their part, never bother the ravens, even though they will pitch fiercely at the Horned Owls and large hawks that are also often found nesting in the same line of cliffs. Incidentally, these last two forms have to keep a sharp lookout on their eggs, otherwise the ravens will surely eat them.

Besides the Prairie Falcon using them, we have found old raven nests used at times by the Ferruginous Rough-leg, and often by the Horned Owls. In the case of the falcons it is interesting to note that their presence in a locality during the breeding season frequently depends entirely upon their finding an old nest of the raven for their use. This we have proved many times.

As to the ravens being beneficial or injurious, the case depends entirely upon the conditions surrounding them. In the vicinity of a breeding area of water birds, there is hardly a question but that they are exceedingly injurious, owing to the

great number of eggs that they devour, not to mention young birds. However, the great majority of them live far away from such conditions and live almost altogether upon carrion, insects, small mammals, lizards, etc. Consequently we believe that we are safe in saying that ravens should be protected, excepting where they are an actual menace to breeding waterfowl. We have never known them to bother land birds to any appreciable extent.

Tacoma, Washington, March 10, 1930.