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AGRICULTURAL EXPERIMENT STATION

MESILLA PARK, N. M.

NOTES ON THE FOOD OF BIRDS

BY

T D. A. COCKERELL

The Bulletins of this Station will be mailed free to Citizens of New Mexico who are interested in the work done here, and to others so far as the editions printed will allow.

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AUG 26 1901

NOTES ON THE FOOD OF BIRDS

BY T. D. A. COCKERELL.

The time has not yet come for a full survey of the feeding habits of New Mexico birds. Many more careful observations must be made and many more stomachs examined, before we can say definitely what each bird eats during every season of the year. The present notes may serve simply to draw attention to the subject; and if the readers of this bulletin will kindly make further observations in their several localities, and communicate them to us, they will be highly appreciated, and carefully credited when used.

The best information we have on the food of birds is contained in the publications of the Department of Agriculture. Dr. C. H. Merriam and his colleagues, of the Biological Survey, have collected a very large body of facts, and are still actively engaged in the investigation. The following publications of the Biological Survey are obtainable from the Department of Agriculture and are especially to be commended as giving full and exact information in a readable form:

F. E. L. Beal—Some common birds in their relation to Agriculture.

T. S. Palmer—Legislation for the protection of birds, other than game birds.

W. B. Barrows and E. A. Schwarz—The Common Crow of the United States.

T. S. Palmer—A review of Economic Ornithology in the United States. (Yearbook for 1899).

F. E. L. Beal—Preliminary report on the food of Woodpeckers.

F. E. L. Beal and S. D. Judd—Cuckoos and Shrikes in their relation to Agriculture.

F. E. L. Beal—Food of the Bobolink, Blackbirds and Grackles.

W. B. Barrows—The English Sparrow in North America.

All things considered, there cannot be the least doubt

that birds do far more good than harm to Agriculture and Horticulture. We notice very readily such little destruction of our fruit or field crops as takes place, but we do not notice the everlasting destruction of injurious insects. We do not realize easily what would become of our crops if there were no birds; how many insects, but for this check, would increase so rapidly as to destroy every green thing in sight. But the purpose of this bulletin is not to pronounce a judicial opinion on the standing of all New Mexico birds, but simply to bring forward certain evidence which may be of interest and value.

THE HARM DONE BY BIRDS

Injurious Birds at Mesilla Park

Mr. Fabian Garcia has given me the following notes of his observations on the Experiment Station farm at Mesilla Park:

“I have observed that in the spring the cherries, especially the sweet varieties, are badly eaten up by the mocking bird and the sparrow. They eat and destroy about a third to half of the cherries on the trees. You understand, of course, that there are only a few trees; if there were large orchards, perhaps we could not notice the amount eaten by the birds.”

“During summer and fall the blackbird and sparrow are extremely bad on kaffir corn and sorghum. They eat nearly all of the seed on the heads of both the kaffirs and sorghums. They are so bad that it is almost impossible for us here at the station to raise any kaffir corn seed. They begin to eat it as soon as it is formed. It may be that if large fields of these sorghums were planted all over the valley the damage done by these birds would not be noticeable. Doves are sometimes bothersome to early ripening wheat, but only to a limited extent and not every year.”

The following important observations are by Mr. Birtwell of Albuquerque.

Sandhill crane eating corn

“This bird is a true pest in corn regions. It will travel

straight through a field of eared corn, strip the ears of all in convenient reach, peck a few grains and pass beyond to the next."—F. J. Birtwell.

Canada goose injuring wheat

"*Anser canadensis* is fond of young wheat in irrigated fields."—F. J. Birtwell.

Long=crested jay and Woodhouse's jay eating corn

Mr. Birtwell saw these birds (*Cyanocitta stelleri macrolopha* and *Aphelocoma Woodhousei*) eating corn from horse feed.

House finch eating fruit buds

"This bird is exceedingly destructive to fruit orchards from the time of early budding to young fruit. I have watched dozens of these birds greedily devouring the stamens of apple blossoms, and birds shot while thus engaged have been found with the œsophagus crammed with filaments and anthers."—F. J. Birtwell.

The House finch (*Carpodacus mexicanus frontalis*) is the common little bird which nests under the eaves of houses in all our towns. It has been considered harmless, but Mr. Birtwell's observations will tend to take away its good character. It may be, however, that a reasonable destruction of flowers is beneficial, preventing overloading with fruit and doing away to some extent with the necessity of thinning out.

The English sparrow has recently found its way into New Mexico, and occurs at Raton and Las Vegas. It might be expected to supplant and drive out the house finch; but in Las Vegas, at any rate, the house finch is still abundant.

For an account of the English sparrow, see Bulletin 1, Division of Ornithology, U. S. Department of Agriculture.

Injury to fruit at Santa Fe

Mr. Arthur Boyle writes as follows concerning his experience of the last twenty years at Santa Fe:

"The worst birds amongst the cherries are the 'redpoll' and a bright colored green and yellow bird the name of which

I have not been able to find out. The cock bird is all bright yellow with black bars on the wings, a red head, a reddish breast; and the hen is all greenish yellow. (Evidently the Louisiana tanager, as Mr. E. Atkins suggested to me). This is a very bad bird on all the fruit. The bunting is another bad bird; it with the 'redpoll' eats the leaf and fruit buds of the trees, especially peach buds, and does a great deal of mischief in the earliest spring when the buds are just beginning to swell. Many other birds eat cherries, of course, but none do any appreciable damage except the above. I do not think that any birds ought to be systematically destroyed; all fruit eaters are insect-eaters, and their absence would be very quickly felt in the increased ravages of insect pests on all kinds of cultivated fruits, vegetables and flowers."

THE GOOD DONE BY BIRDS

Insects eaten

Red-backed Junco.—Stomachs of birds shot by Mr. E. Atkins on the upper Sapello River, N. M., contained beetles and scales of lepidoptera. In one case some seeds were found. The stomach of a bird from the Rio de las Casas contained small seeds and remains of insects.

Western Flycatcher.—One shot by Mr. E. Atkins on the upper Sapello River had remains of beetles in its stomach.

Audubon's Warber.—A bird shot by Mr. Atkins on the Rio de las Casas had in its stomach remains of beetles, and the head of a small green bee of the genus *Halictus*, apparently *Halictus ruidosensis*.

The above are fair samples of the results of the examination of the stomach-contents of various small birds. The number of insects eaten is immense, but they are not all injurious species. The little green bee (*Halictus*), for instance, is beneficial as a carrier of pollen, and does no harm.

Weed seeds eaten

Birds eat great numbers of seeds of weeds, and are considered therein beneficial, though they doubtless also aid in

the distribution of various plants, some of which may be troublesome to agriculture.

Mr. F. E. L. Beal says: "The value of our native sparrows as weed destroyers is not appreciated. Weed seed forms an important item of the winter food of many of these birds, and it is impossible to estimate the immense numbers of noxious weeds which are thus annually destroyed."

Mr. Birtwell has observed the following birds at Albuquerque eating the seeds of sunflowers:

Arkansas Goldfinch (*Spinus psaltria*).

Pine Siskin (*Spinus pinus*).

Red-winged Blackbird (*Agelaius phœniceus*).

Audubon's Warbler (*Dendroica auduboni*).

House Finch (*Carpodacus*).

The following birds have been seen by Mr. Birtwell to glean weed seed of various harmful kinds from fields in fall and winter:

Meadow Lark (*Sturnella*).

Red-winged Blackbird (*Agelaius phœniceus*).

Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*).

Intermediate Sparrow (*Zonotrichia leucophrys intermedia*).

Desert Song Sparrow (*Melospiza fasciata fallax*).

Oregon Junco (*Junco hyemalis oregonus*).

Gray-headed Junco (*Junco caniceps*).

Pink-sided Junco (*Junco annectens*).

Red-backed Junco (*Junco phœnotus dorsalis*).

And "in fact, the majority of our small wintering species."

Useful birds at Santa Fe

Mr. Arthur Boyle writes as follows:—"I have noticed all the birds that visit the garden busy chasing and eating grasshoppers at all times, particularly the young wingless hoppers; even the little wild canary, that is also so very fond of the fruit buds, will attack, kill and gobble some of a grasshopper nearly as big as itself if it is young and tender. One of the best friends of the fruit grower is the Rocky Mountain jay, the big dark blue jay with the black head and crest. They

search the branches and bark of the trees for codling moth cocoons and are death on grubs. The jay, the woodpecker, sapsucker and all their tribe work all winter long and eat no end of grubs, larvæ and chrysalids. These should be protected by every means possible; in fact, I don't know any birds that ought not to be protected. I believe they all do a great deal more good than harm, although we don't always know it."

Bullock's oriole eating caterpillars

Mr. Emerson Atkins has observed these birds (*Icterus bullocki*) in the mountains near Las Vegas busily feeding on caterpillars (*Clisiocampa fragilis*), which are clustered on the willows and wild plum trees, and which are so destructive to foliage on the Pecos Forest Reserve. This happened in the spring, when the work of the birds was most timely, and there can be no doubt that much good was done.

SOME MISCELLANEOUS NOTES

Birds flying long distances between meals

It must not always be assumed that the food found in a bird's stomach was eaten near the place where the bird was shot. Mr. Birtwell informs me that an American Merganser (*Merganser Americanus*) shot by Mr. W. H. Cobb at Albuquerque had in its stomach a piece of salt water sea-weed (*Fucus*) and salt-water perch partly digested. A gull shot near Las Vegas Oct. 22nd, 1900, had in its stomach many grasshoppers, which were identified by Mr. S. H. Scudder as *Encoptolophus*, probably *E. parvus*, and *Melanoplus compactus*. Although thirty-one species of *Melanoplus* have been collected in New Mexico, *M. compactus*, which is known from Dakota and Nebraska, has never been collected there.

Some years ago the writer found a new species of *Crustacea* in a warm spring near Socorro, N. M. This creature, which was described by Miss Harriet Richardson as *Sphceroma thermophilum*, belongs to a marine genus and family, and must undoubtedly have been derived originally from the sea, though it has been isolated long enough in the spring to have

acquired specific distinctions. It is not possible to suppose it a relic of cretaceous time, when the sea washed over New Mexico, and therefore I conclude that in some way it must originally have been brought by some bird making a long flight from the sea, as the *Merganser* cited above. Just how the eggs or young of the crustacean were carried so far we cannot tell, but it is possible to imagine how it could have occurred.

Birds eating juniper cedar berries

Mr. Birtwell observed the following birds eating the berries of cedar (*Juniperus*) trees in the winter of 1899:

Western Robin (*Merula migratoria propinqua*).

Bluebird (*Sialia Mexicana*).

Townsend's Solitaire (*Myiadestes Townsendi*).

This winter (1900-1901) Mr. Birtwell says the trees are nearly barren, and the robins and bluebirds are absent.

In Wet Mountain Valley, Colorado, I examined the stomach of a Western Robin, and found it to contain berries of *Juniperus communis*.

THE WOODPECKERS

No birds are more conspicuous about our orchards and by our roadsides than the different kinds of woodpeckers. As questions are often asked regarding these birds, and farmers are often in doubt as to their utility or harmfulness, I have thought it useful to abstract the information which has been published regarding their food, adding such few remarks as my own observations suggest.

It may be said at once, that as a whole the woodpeckers are extremely useful and are entitled to protection as much as any birds that fly. Of all the species reported from New Mexico, only two may be considered injurious, and of these the red-headed woodpecker is too rare to be of importance, leaving only the red-naped sapsucker as a serious cause of loss.

The exact status of the red-naped sapsucker is not perfectly established. It is known that it devours quantities of

injurious insects, and while the rows of holes it makes in the trunks of apple trees are familiar enough, it is not apparent that the ensuing damage is very great in our dry climate.

Dr. J. B. Smith has written thus of the injuries caused by woodpeckers in New Jersey: "Now comes another factor—the woodpecker and its allies, that make war upon the borers. They peck and hammer away at infested spots, and many a fat borer falls prey to their activity and industry; but whenever they haul out a specimen they leave a hole, and that is, too often, an entrance point for the water, that, after all, is as much to be dreaded in the tree as it is useful when it reaches the roots through the soil."

But in New Mexico these holes seem to heal up readily, though they may leave scars which would affect the value of the wood. Water is not so plentiful with us as in New Jersey, and the growth of harmful fungi is not so readily stimulated by an injury or perforation of the bark. Dr. Coues, than whom there is no more eminent authority, says of woodpeckers: "They dig insects and their larvæ out of trees, and are eminently beneficial to the agriculturist and fruit-grower. Contrary to a prevalent impression, their boring does not seem to injure fruit trees, which may be riddled with holes without harmful result."

Mr. F. J. Birtwell has noticed the red-naped sapsucker, Williamson's sapsucker and Baird's woodpecker, all feeding on the sap of apple trees in New Mexico, as he informs me in a letter. This would seem to convict the two latter birds, as well as the first mentioned, of injurious habits; but it is probable that they do little if any harm, and much good.

Prof. A. J. McClatchie has lately recorded that the Gila woodpecker devours the ripening dates in Salt River Valley, Arizona, and is thus quite destructive.

The Red-Naped Sapsucker

This bird is of medium size mottled with black and white. In the adult male, the crown of the head, and the throat, are bright crimson; behind the red of the throat is a large black patch, while the under parts behind this are dirty white,

more or less marked with grey. In the female and young male the red on the head is very much reduced, and scarcely noticeable, while the under parts are more decidedly yellowish. The bird has four toes; and the tongue is scarcely extensile, the tip being obtuse and brushy. The specimens before me were collected by Mr. E. Atkins, on the Sapello River, on the Rio de las Casas, and at Cleveland, all in New Mexico. The bird was apparently first collected in New Mexico by Dr. Henry, as recorded by Baird in 1858. (Birds Pacific R. R. Survey, p. 104). Dr. Henry also obtained it at Fort Thorn (tom. cit. p. 921).

Hairy Woodpecker

Dryobates villosus, the hairy woodpecker, exists from the Atlantic to the Pacific in a variety of sub-specific forms. The form known as *harrisii* has been reported from Socorro County, N. M.; but it is now held that this bird belongs exclusively to the Pacific Coast, and consequently cannot have been found in New Mexico. Bendire reports the form *hyloscopus* as that found in New Mexico, but Mr. A. W. Anthony gives the name *montanus* to the birds ranging from New Mexico to Montana.

The bird, whatever it may be called, nests in dead trees, and is said to be especially abundant in regions where the timber has been killed by fires. Bendire says of it: "It is one of our most active woodpeckers, always busy searching for food, which consists principally of injurious larvæ and eggs of insects, varied occasionally with a diet of small berries and seeds, and in winter sometimes of piñon nuts, pine seeds, and acorns. At this season I have often seen this species around slaughter houses, picking up stray bits of meat or fat, and have also seen it pecking at haunches of venison hung up in the open air."

Beal says: "The hairy woodpecker probably ranks next to the downy in point of usefulness. It eats fewer ants, but a relatively larger percentage of beetles and caterpillars." Mr. F. M. Webster has noticed that they will peck through the cocoons of the cecropia moth, and devour the pupæ within.

Batchelder's Woodpecker

This bird was separated from Gairdner's Woodpecker as a distinct sub-species (*Dryobates pubescens orceus**) in 1889, part of the series of specimens studied coming from Las Vegas Hot Springs, New Mexico. Its habits, food, etc., are said to be the same as those of the downy woodpecker. Capt. Bendire writes thus of the last-mentioned bird: "Unfortunately, it is also considered a sapsucker, and many of these exceedingly useful little woodpeckers are killed yearly through lamentable ignorance, under the supposition that they injure the fruit trees by boring in the bark, while in fact they render the horticulturist inestimable service by ridding his orchard of innumerable insects, their eggs and larvæ, and few of our native birds deserve our good-will more than the little downy woodpecker."

Mr. F. E. L. Beal says that of seven common woodpeckers whose food he studied, the downy woodpecker is the most beneficial. "Three-fourths of its food consists of insects, and few of these are useful kinds. Of grain, it eats practically none. The greatest sin we can lay at its door is the dissemination of poison ivy." In some cases the bird resorts to the ground and eats the eggs of grasshoppers.

Baird's Woodpecker

This belongs to the same genus as the last two, its scientific name being *Dryobates scalaris bairdi*. It is especially a bird of the mesquite region, and in Arizona it nests in the mesquite trees, which are of a different species (*Prosopis velutina*, Wooton) from the mesquite bush of New Mexico, although the two are closely allied. Captain Bendire says that this woodpecker is very fond of the ripe fruit of the giant cactus.

Arizona Woodpecker

The Arizona woodpecker, *Dryobates arizonæ*, has been found by Dr. Mearns in the extreme southwestern corner of

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*The scientific name has since been changed to *Dryobates pubescens honorus*.

New Mexico, but it is essentially a bird of southern Arizona and western Mexico. Mr. H. W. Henshaw reports that the birds observed by him in Arizona, "when in pursuit of food, almost always alighted near the base of the trees, gradually ascending and making their way along the smaller limbs and even out among the foliage, appearing to prefer to secure their food by a careful search rather than by the hard labor of cutting into the wood."

Alpine Three-toed Woodpecker

This is a northern bird, which, however, has been found in the region about Taos, New Mexico. I have no special information regarding its food, but there is no reason for considering it harmful.

Red-Naped Sapsucker

This woodpecker, the *Sphyrapicus varius nuchalis* of Baird, was originally described from New Mexico specimens. "In the fruit-growing sections within its range in southwest Utah, for instance, it is said to do considerable damage to the orchards in the early spring and again in the fall, tapping the peach and apple trees for sap in the same manner as *Sphyrapicus varius* does in the east. Its principal food consists of small beetles, spiders, grasshoppers, ants and such larvæ as are to be found under the loose bark of trees, as well as of wild berries of different kinds." [Captain Bendire] Mr. F. E. L. Beal says of the eastern sapsucker: "In localities where the bird is abundant considerable harm may be done to apple trees, which appear to be pleasing to its taste."

In New Mexico complaints have been received of the depredations of this bird, and there can be little doubt that it is a cause of more or less serious injury.

Williamson's Sapsucker

This, the *Sphyrapicus thyroideus* of ornithologists, is frequently observed in New Mexico. The stomach of one shot by Mr. E. Atkins at Conocita, above Cleveland, N. M., was full of ants (*Formica* sp.). Others shot on the upper Sapello

river had eaten ants and beetles. This bird lives mainly in the coniferous forests, and there is no reason to consider it injurious. Bendire says: "It's food seems to consist almost exclusively of insects and their larvæ, various species of lepidoptera, and an occasional grasshopper." Coues tells us, "It is strictly a *Sphyrapicus*, with little extensible, brushy and obtuse tongue, and feeds on juices of trees, as well as insects and berries."

Red-headed Woodpecker

This bird (*Melanerpes erythrocephalus*) has been observed by Mr. Chas. M. Barber at Hall's Peak, N. M., but it appears to be a rarity in New Mexico. Mr. Beal reports that it eats many beetles, apparently having a taste for those of large size. He also says: "The redhead has been accused of doing considerable damage to fruit and grain, and both charges are fairly well sustained. In northern New York Dr. Merriam has seen it peck into apples on the tree, and has several times seen it feed on choke-cherries."

Californian Woodpecker

Capt. Bendire says of this bird: "It is one of the most restless woodpeckers I know of, and never appears to be at a loss for amusement or work of some kind, and no other bird belonging to this family could possibly be more industrious. During the spring and summer its food consists, to a great extent, of insects, including grasshoppers, ants, beetles and different species of flies, varied occasionally with fruit, such as cherries, which are carried off whole, apples, figs, and also berries and green corn; but acorns always form its principal food supply during the greater portion of the year, and large numbers are stored away by it in the thick bark of pines, as well as in dry and partly rotten limbs of oak and other trees, also in telegraph poles and fence posts." Capt. Bendire adds, however, that the habit of storing acorns seems to be confined to the birds found in California and south-western Oregon, and that the somewhat smaller birds of Arizona and New Mexico never seem to act in this manner.

Lewis's Woodpecker

“In summer its food consists mainly of insects of different kinds, such as grasshoppers, large black crickets, ants, beetles, flies, larvæ of different kinds, as well as of berries, like wild strawberries and raspberries, service berries and salmon berries, acorns, pine seeds and juniper berries, while in cultivated districts cherries and other small fruits enter into its daily bill of fare. Here, when common, it may occasionally do some little damage in the orchards, but this is fully compensated by the noxious insects it destroys at the same time. In localities where grasshoppers are abundant they live on these pests almost exclusively while they last.”—Capt. Bendire.

Gila Woodpecker

This bird occurs in southwestern New Mexico, but is properly a species of southern Arizona and adjacent Mexico. The specimens originally described by Baird in 1854 were from “Bill Williams’ River, N. M.,” but Bendire informs us that this is in Arizona. Its food is said to consist of various insects, and largely of cactus fruits and mistletoe berries. It is probably this species and the gilded flicker which, nesting in the giant cactus and feeding on the fruit of that plant, have come to transfer their attentions to the oranges in Salt River Valley, piercing them with their beaks and eating their contents.

Red-Shafted Flicker

This well known woodpecker is common in New Mexico, and is a great devourer of ants. One shot by Mr. E. Atkins at Conocita, above Cleveland, N. M., had the stomach full of ants, of two or more species. One shot on the Rio de las Casas had also eaten ants, not only the adults, but innumerable pupæ.

MISCELLANEOUS BIRDS**Sparrow Hawk**

The American sparrow hawk (*Falco sparverius*) is common in New Mexico; Capt. Pope observed it at Doña Ana as long

ago as Oct. 22, 1855. Dr. Fisher has well described the feeding habits of this bird in the following language:

“The sparrow hawk is almost exclusively insectivorous except when insect food is difficult to obtain. In localities where grasshoppers and crickets are abundant these hawks congregate, often in moderate sized flocks, and gorge themselves continuously. Rarely do they touch any other form of food until, either by the advancing season or other natural causes, the grasshopper crop is so lessened that their hunger cannot be appeased without undue exertion. Then other kinds of insects, and other forms of life contribute to their fare; and beetles, spiders, mice, shrews, small snakes, lizards, or even birds may be required to bring up the balance.”

The stomach of one shot by Mr. E. Atkins on the Rio de las Casas, N. M., contained the remains of a large beetle which was full of eggs. Another from the same locality contained grasshoppers and a large lepidopterous larva.

It is evident that the sparrow hawk is one of the most useful of birds.

Cooper's Hawk

While most of the hawks are decidedly beneficial, this species (*Accipiter cooperi*) has to be condemned on account of its habit of preying on small birds and poultry.

Mr. F. J. Birtwell informs me that in May, 1900, he was on the Pecos Reservation, and “a pair of these birds nested near my cabin. The amount of small birds they captured was very large. I hardly saw a day but what one or another of the pair was seen with a small bird, sometimes a robin.”

Dr. Fisher says, “Cooper's hawk is very destructive to domesticated pigeons, and, when it finds a cote which is easy of approach, is very troublesome.”

Road Runner

“Its food consists almost entirely of animal matter, such as grasshoppers,, beetles, lizards, small snakes, land snails, the smaller rodents, and not unfrequently of young birds. On the whole these birds do far more good than harm. When

the fig-like fruit of the giant cactus is ripe they also feed on this; in fact, many animals and birds seem to be very partial to it. It is astonishing how large an animal can be swallowed by one of these birds. I have found a species of garter snake fully twenty inches long in the crop of one shot in Arizona."—Captain C. Bendire.

Captain Bendire also quotes Mr. Anthony as stating that the road runner has in several cases been known to make a meal of a nest of young house-finches, and other small birds.

As a destroyer of snakes, this bird must be considered somewhat harmful, since very few of our snakes are poisonous, and many of them do great service in destroying gophers and similar destructive animals.

California Cuckoo, or Western Yellow-Billed Cuckoo

Captain Bendire once observed a nest of this bird "placed in a clump of willows, within a few feet of where I was camped, and my attention was first attracted to it by the uneasy manner in which the parents moved through the willows, constantly flitting back and forth, and always with a large, black cricket, *Anabrus*, in their bills, on which they seemed to feed their young entirely." Captain Bendire further noticed that this bird seemed invariably to build its own nest, and in no case to lay its eggs in the nests of other birds; as several of its relatives do.

The eastern yellow-billed cuckoo is a great destroyer of caterpillars, including the cankerworm and tent caterpillar. No doubt the western bird, which is only subspecifically distinct from that of the east, has similar habits.

The cuckoo, therefore, is a most beneficial bird.

Belted Kingfisher

"While different kinds of small fish undoubtedly constitute a large part of the kingfisher's food where readily procurable, various species of crustacea, as well as insects such as coleoptera, grasshoppers, and the large black crickets found in many of our Western states, are also eaten to a greater or less extent, according to circumstances; frogs and lizzards

are also acceptable prey. In southern Arizona, for instance, where running streams are few, I have found kingfishers breeding in localities where fish must have formed but a small percentage of their daily fare; there they lived principally on lizards, beetles, and large grasshoppers. I have more than once seen one of these birds perched on some twig overhanging a dry, sandy river bed, where no water was to be found within several miles, on a watch for the kind of food procurable in such localities."—Capt. Bendire.

These kingfishers are found along the Gallinas River, near Las Vegas, where they doubtless live on the small fish inhabiting the river. The fish living in this part of the Gallinas (kindly identified for me by Dr. B. W. Evermann) are *Leuciscus nigrescens* and *Rhinichthys cataractæ dulcis*. These are small fish, of no economic importance. Dr. Bendire says, "By far the larger number of fish caught by the kingfisher consist of species not considered worth much as food fishes, and they rarely average over three inches in length." Mr. Wm. Jones tells me that at the Kronig Lakes, N. M., he saw Kingfishers take comparatively large fish, six inches or over in length.

The Shrike

The white-rumped Shrike (*Lanius ludoricianus excubitoroides*) is a common bird in the Mesilla Valley, and everyone knows how it hangs lizards, grasshoppers, and even mice and snakes, upon the mesquite thorns. Mr. Birtwell reports the shrike as preying on garter-snakes and grasshoppers.

The Band-tailed Pigeon

Mr. Birtwell reports that this bird (*Columba fasciata*) feeds almost exclusively on acorns during the winter.

The Poor-will

Dr. R. W. Shufeldt, as Mr. Birtwell informs me, has recorded (Auk, Oct. 1885) that the Poor-will (*Phalacroptilus nuttallii*) was seen at Fort Wingate capturing moths, and some of the birds when shot were found to have their throats

packed with them. They caught the moths by leaping in the air two or three feet from a gravel walk.

The Evening Grosbeak

A large flock of these beautiful birds (*Coccythraustes vespertinus montanus*) visited Las Vegas in the fall of 1900, and everyone had an opportunity to see them eating the seeds of the box-elder.

APPENDIX.

COUNCIL BILL NO. 3

An Act to prevent the killing of birds in the Territory of New Mexico

Be it enacted by the Legislative Assembly of the Territory of New Mexico:

Section 1. That it shall be unlawful for any person or persons in this territory to wantonly shoot, snare or entrap, for the purpose of killing, or in any other manner to destroy, any song bird, or birds whose principal food consists of insects; comprising all the species and varieties of birds represented by the several families [species] of blue-birds, including the western and mountain blue-birds; also road-runner, wood-peckers, night-hawks, humming birds, phoebe-birds, fly-catchers, pewees, piñon jays and other varieties of the jay family; blackbirds, meadow-larks, orioles, Mexican ojotles, Arizona gold finches, swallows, yellow-throats, thrashers, wrens, mocking-birds, Rocky mountain creepers, nut hatches, robins, chickadees, gnat-catchers, thrushes, Oregon or "Denny pheasant," and all other species and varieties of birds, regarded as harmless in their habits, and whose flesh is unfit for food; except such as are destructive to orchards, gardens and fields, or crops of fruit, berries or grain. *Provided*, that nothing in this act shall be construed to prohibit the killing of any such birds for scientific purposes.

Section 2. Any person or persons violating the provisions of this act shall be punished by any court before whom complaint may be made, by a fine not to exceed fifty dollars and not less than ten dollars, or by imprisonment in the county jail, not to exceed thirty days and not less than ten days. Each bird killed, injured or in any way disposed of shall constitute a separate offense under the provisions of this act.

Section 3. This act shall take effect from and after its passage.

Approved March 14, A. D. 1901.

NOTE—I was not able to obtain a copy of the above bill before its passage. It represents a move in the right direction, but it would be hard to show that the flesh of many of the birds mentioned is "unfit for food," and it would take an expert to determine whether the several kinds were at all "destructive to orchards, gardens and fields, etc." The mocking bird, for instance, is mentioned; but Mr. F. E. Lester writes me from Mesilla Park that this bird every summer eats the apples on his trees. Last summer one tree, the best on his place, bore probably two hundred good apples, but all were eaten by the birds before becoming ripe. In reality we do not yet know enough of the habits of New Mexico birds to say in every case which is harmful and which useful, though in most instances we can doubtless form a reasonable opinion.

T. D. A. C.

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