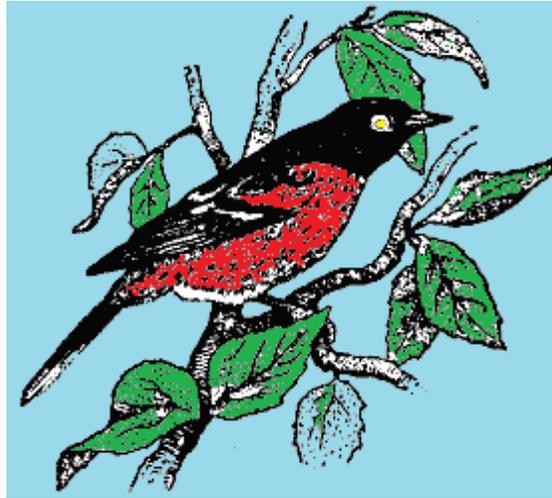


Between Birds and Man

By LAURENCE BRUNER



When civilized man takes possession of new regions and begins cultivating the soil and establishes his sovereignty there, the equilibrium as it existed upon his arrival is very quickly disturbed. One or more of the many forms of life—plant and animal—that were previously held within certain limits gain ascendancy. The introduction of new crops that furnish an abundance of the proper food for some insect, enables this form to increase out of all proportions and harm soon results. The killing off of certain other forms of life that naturally keep still others in check also assists in disturbing the equilibrium further. The cutting down and clearing away of forests removes the shelter and homes of others, as does also the turning under of prairie grasses.

Then, too, many of the natural residents of primeval forests and virgin prairies shun the sight of man, hence they gradually withdraw from the region, and their influence for good or evil goes with them. Since the majority of such forms are timid and inoffensive creatures, their withdrawal only adds that much more to the already overbalanced conditions. Year by year the gap which at first was scarcely noticeable becomes widened, so that frequent inroads are made and harm results.

Instead of trying to ascertain the true cause for all this trouble perhaps exactly the wrong thing is done by the settlers. This of course only has the effect of further widening the gap between safety and danger. Since an insect or other animal becomes noticeably harmful only when present in alarming numbers, it stands to reason that anything which favors such an abnormal increase is a factor in disturbing nature and should be quickly rectified where possible. In order that these disturbances should be looked after the all-wise God of the universe created birds and gave them the power of flight that they might the more readily move about rapidly from place to place, where their services might be needed in balancing affairs. Hence birds have naturally and rightfully been called the “balancers” in nature. This being true, let us see just what their relations are to agriculture.

The farmer sows in order that he may reap an increased measure of what he has sown. In doing this he must first turn over the soil. This destroys many existing plants as well as animals that depend upon them for food. The plants thus turned down cannot regain their position and must of necessity die. Not so with many of the animals, however, which soon work their way to the surface. Some of these attack the growing plants which have been made to occupy the place of those destroyed by the plough. Others take wing and seek suitable food in adjoining districts where they add to the numbers already drawing upon the vegetation up to the point of possible continued supply. Here, then, the scales begin to vibrate. In the field the new and tender crop entices the ever-shifting individuals of myriads of forms that have been crowded out elsewhere. The result here too is, or would be, very disastrous were it not for the timely visit of flocks of birds likewise in search of food.

It is during the period of first settlement of a country, when the fields are small, few and widely separated, that injury may and frequently does result from birds. It is then a problem that needs careful consideration, not only for the time being, but also for the future welfare of that country. If animal life is destroyed indiscriminately and without intelligent forethought, calamities unforeseen are sure to follow in the not distant future.

Birds can be useful to man in many ways. They can benefit him by carrying the seeds of various plants from place to place so as to assist him in establishing new groves in which to find shelter from the cold in winter and refuge from the heat of the noonday sun in summer. They plant various shrubs by the wayside that spring up and later are laden with luscious fruit. They also carry the spawn of fishes and small crustaceans among their feathers into new waters, and feed upon the countless seeds of weeds that are scattered broadcast over the face of the earth. Some kinds live almost exclusively upon insects, while others hunt out the small rodents that would, if left to themselves, destroy great quantities of grain and other vegetation. Still other birds benefit mankind by acting as scavengers in the removal of putrid and other offensive matter which would endanger our health. In addition to all these varied direct benefits which are brought about by the presence of birds, man is further indebted to these creatures for the cheer which their gay music, bright plumage and pleasant manners bring to him. The birds form a carefully organized army of police which is engaged in keeping affairs balanced in nature.

But we can go even further summing up the benefits that men may derive from the birds. A great many kinds make excellent food, while others furnish sport and pleasure to a large number of men and boys who seem to require a certain kind of entertainment while accompanied with dog and gun. Dead birds when embalmed as mummies and attached to the head-gear worn by some girls and women are also claimed to cause much happiness.

Birds as Enemies.—It would be ridiculous for me to assert here that no injury ever results from the presence of birds on the farm or in the orchard. Quite a number of different species are continually stepping over to the wrong side of the “ledger” as it were, and committing depredations of various kinds which if considered alone would render the perpetrators liable to severe punishment—in some cases even unto death. Some of the crimes that can be charged to the feathered tribe are cherry and

berry-stealing, grape-puncturing, apple-pecking, corn-pulling, grain-eating, the unintentional carrying from place to place of some kinds of scale insects that happen to crawl on their legs and feet, the possible spreading of hog cholera by crows and buzzards, the robbing of the poultry yard, and lastly some birds are accused of making noises that awaken us from our slumbers in the morning.

Some of these crimes are genuine and are to be deplored, while others are more imaginary than real. A few of them could be prevented in part or altogether, while others might be diminished if we were inclined to take the trouble to do it.

After all that can be said pro and con concerning the usefulness of birds in general there remains no doubt, in the minds of thinking people at least, as to the value of these creatures. It is only the vicious, biased, and thoughtless persons who continue ruthlessly to destroy birds indiscriminately without first pausing to consider whether or not it is a proper thing to do, whether it is right or wrong.

Food habits.—So varied is this task of evening up in nature that if attended to properly the workers must be numerous in individuals and possess widely different habits. That such is the case can readily be seen by the following brief account of the various groups of our Nebraska birds, along with brief statements of their food habits.

The Grebes and Loons feed chiefly upon snails and other aquatic animals such as are found about their haunts. They also capture many grasshoppers and similar insects that happen in their way. They cannot, therefore, be classed among the especially beneficial birds, neither can they be termed injurious on account of what they eat.

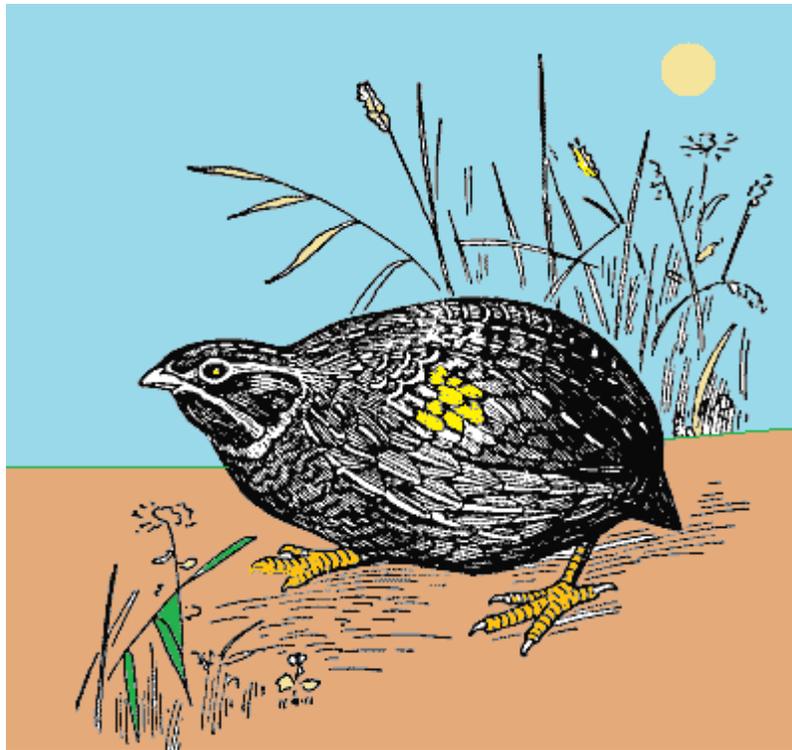
The Gulls, provided as they are with long wings and great powers for flight, are not confined to the seacoast, hence they reach far inland in their migrations, feeding extensively upon insects like locusts, June-beetles, crickets, etc., large numbers of which they destroy annually. Several kinds of these birds are known to follow the plough and pick up the white grubs and other insects that are turned up and laid bare. In early days, when grasshoppers did much harm in this state, numerous flocks of these birds were seen to feed upon these insects.

The Cormorants and Pelicans are chiefly destroyers of fishes and frogs, hence can hardly be classed among the most beneficial forms; but whether or not they do any more than to maintain the necessary equilibrium in that particular part of the vast field of nature it is difficult to judge without time for investigation.

The various Ducks and Geese which are also nearly as aquatic in their habits as some of the foregoing, frequently leave their haunts and make excursions into the surrounding country where in summer they feed upon locusts, beetles, and other injurious insects. They also partake of considerable quantities of vegetable food, as grains, weed seeds, grasses, and other herbage. While not included among the insectivorous forms these birds do much towards diminishing the ever increasing horde of creeping and jumping things. Ducks and geese on the other hand are largely utilized by us as food: while their feathers make comfortable pillows and coverlets.

The Herons, Cranes, and Rails are frequenters of marshes and the margins of streams and bodies of water, where they assist in keeping the various forms among the animal life balanced. Fishes, frogs, snails, insects, and crustaceans are alike devoured by them.

The Snipe, Sandpipers, Plovers, Phalaropes, Curlews, etc., are great destroyers of insects. Moving as many of them do in great flocks and spreading out over the meadows, pastures, and hillsides, as well as among the cultivated fields, they do a large amount of careful police service in arresting the culprits among insects. They even pry them out of burrows and crevices in the earth where these creatures lurk during daytime only to come forth after nightfall to destroy vegetation. The large flocks of Eskimo Curlews that formerly passed through eastern Nebraska did magnificent work during years when the Rocky Mountain Locust was with us, as did also the equally large flocks of Golden Plovers. The Bartramian Sandpiper even now is a great factor each summer in checking the increasing locusts on our prairies.



The various members of the Grouse family, while belonging to a grain-eating group, are certainly quite prominent as insect destroyers. Especially is this so with respect to the Quail, Prairie Hen, Sharptailed Grouse, and Wild Turkey, all of which are occupied most of the summer months in capturing and destroying vast numbers of such insects as are found on the prairies. Grasshoppers, locusts, crickets, caterpillars, and similar insects comprise the bulk of their insect food—forms that are all among the most numerous as well as destructive species. In writing about these birds as insect destroyers Prof. Samuel Aughey writes: “I happened to be in the Republican Valley, in south-western Nebraska, in August, 1874, when the locust invaded that region.

“Prairie chickens and quails, that previous to their coming had a large number of seeds in their stomachs, when dissected, seemed now for a time to abandon all other kinds of food. At least from this onward for a month little else than locusts were found in their stomachs. All the birds seemed now to live solely on locusts for a while.” In winter and at other times of the year when insect life is scarce and difficult to obtain, these birds feed more or less extensively upon seeds and other kinds of vegetation. Some even enter cultivated grounds and seek food that belongs to the farmer, thereby doing more or less direct injury. The extent of such injury, of course, depends upon the number of birds engaged in the depredations, and also on the time over which it is allowed to extend. If corn and other grain is harvested at the proper time, but little damage ensues; but if allowed to remain in the field throughout winter, much of the crop is liable to be taken by the birds.

Quail.

Perhaps no other bird that frequents the farm pays higher prices for the grain it eats than does the Quail. Living about the hedgerows, groves, and ravines, where insect enemies gather and lurk during the greater part of the year, this bird not only seizes large numbers of these enemies daily during the summer months when they are “abroad in the land,” but all winter through it scratches among the fallen leaves and other rubbish that accumulates about its haunts seeking for hibernating insects of various kinds. Being a timid little creature, the Quail seldom leaves cover to feed openly in the fields, and therefore does but little actual harm in the way of destroying grain. In fact it only takes stray kernels that otherwise might be lost. This bird is one of the few that feeds upon that unsavory insect, the chinch-bug; and the number of this pest that occasionally are destroyed by it is really astonishing. No farmer or fruit-grower should ever kill a quail himself nor allow anyone else to hunt it on his premises.

Our domestic fowls, save ducks and geese, from which so much direct income is derived throughout the year, belong here. It would be folly on my part to assert that they are useless to the farmer. Besides furnishing eggs and meat for the table, they are great aids in keeping down a variety of noxious insects during spring, summer, and fall.

The various species of Doves or Pigeons are not, as a rule, thought of as being especially harmful, yet repeated examinations of their stomach contents would indicate that their food seldom, if ever, consists of anything but grains and various kinds of seeds along with other particles of vegetation. The good done by these birds as destroyers of weed seeds more than pays for the harm done by them as grain-eaters.

Recent careful study with reference to the food habits of Hawks and Owls carried on by the United States Department of Agriculture go to show that these birds, with but few exceptions, are the farmer’s friends rather than his enemies. It appears that the good which they accomplish in the way of destroying mice, gophers, rabbits and other small mammals along with great quantities of noxious insects far exceeds the possible harm they do by the occasional destruction of poultry and other birds. A critical examination of the actual contents of about twenty-seven hundred stomachs of these birds showed that only six of the seventy-three species found in the United States are injurious. Three of

these are so rare that they need not be considered. Of the remaining three the Fish Hawk is only indirectly injurious: hence but two remain to be considered, viz., the Sharp-shinned and Cooper's Hawks. "Omitting the six species that feed largely on poultry and game, 2,212 stomachs were examined, of which 56 per cent contained mice and other small mammals, 27 per cent insects, and only 3½ per cent poultry and game birds."

The food habits of both the Turkey Vulture and Carrion Crow, or Black Vulture, are of such a nature that the destruction of these birds should be prohibited. In fact, in many of the states this is done by law. They live almost exclusively upon carrion or decomposing animal matter, and in this manner aid in the prevention of diseases that might result from the presence of such filth. They may, however, be the cause of indirectly spreading hog cholera where animals that have died from this disease are left unburied or unburned.

The Cuckoos are among the few birds that habitually feed upon hairy caterpillars, such as the various "tent-making" species. They also destroy large numbers of other caterpillars, and do not object to beetles and other insects which they find among the foliage of trees. Although shy birds they are frequently seen in cities, where they do their share in protecting the shade trees from the ravages of insect defoliators.

.Taking the Woodpeckers as a family, there are few persons but who will readily admit that these birds comprise a very useful group. Feeding, in fact, as most of them do, upon the larvæ of wood-boring



insects, they can readily do much greater good for the actual number of insects destroyed than if they destroyed only those that feed upon the foliage of trees. Not unfrequently will a single borer kill an entire tree if left to itself, while hundreds of foliage-feeding caterpillars of the same size have but little effect upon the appearance, to say nothing of the health, of the same tree.

Mr. M. L. Beal, assistant in the Division of Ornithology and Mammalogy of the United States Department of Agriculture, in summing up the results obtained from the examination of six hundred and seventy-nine stomachs of these birds, writes as follows:

"In reviewing the results of these investigations and comparing one species with another, without losing sight of the fact that comparative good is not necessarily positive good, it appears that of seven species considered the Downy Woodpecker is the most beneficial." He then

goes on to give the food habits based on contents of the stomachs of our most common species.

"Judged by the stomach examinations of the Downy and Hairy Woodpecker and Flicker it would be

hard to find three other species of our common birds with fewer harmful qualities.”

The Flicker is one of our most common woodpeckers in Nebraska and does much towards keeping down a number of different kinds of insects. It is very fond of ants as a diet, in fact is partial to them, and this element forms almost half of its entire food-supply during the year. It also occasionally feeds upon the chinch-bug, as can be attested by the fact that the stomach of a specimen killed near Lincoln contained in the vicinity of one thousand of these bugs. It is also a fruit-eater to the extent of about one-quarter of its entire bill of fare, but nature, not man, furnishes the supply. It takes the wild kinds in preference to those that are cultivated.

The Whippoorwill, Night Hawk, and Swifts feed entirely on insects, and must consequently be classed among the beneficial birds. They all capture their prey while upon the wing, and naturally destroy large numbers of troublesome kinds.

The various species of Flycatchers, as the name implies, destroy insects which they capture for the most part while on the wing. Flies and allied insects are quite prominent on their bill of fare; but these by no means are the only kinds of insects destroyed by them. Many a luckless locust, butterfly, moth or even beetle is snapped up and devoured by the different species of the family. The Bee-bird, or Kingbird as it is more frequently called, sometimes even catches bees. These latter, however, consist largely of drones, hence comparatively little harm is done.

One should be unprejudiced in order to write a fair biography of even a bird, or group of birds. To say that I am without such prejudice with reference to some of the members of the family of birds now to be considered, would be a falsehood. Still, I shall endeavor to give as unbiased testimony as possible with reference to their food-habits at least, and let the reader judge for himself as to what would be the proper treatment for these birds. Taking the family as a whole that which is made up of birds like the Crows, Ravens, Magpies, Jays, Nut-crackers, “Camp-robbers,” etc., though some of them have unenviable names and reputations at least, are not at all as bad as we are sometimes requested to believe them to be.

The Crows, Ravens, Magpies, and immediate relatives are what might be termed “omnivorous” in food-habits, eating everything that comes their way. Crows, however, have been shown to feed largely on insects, which in great measure at least, offsets the harm done in other directions. They also feed on various substances, the removal of which is for the general good.

The Raven is too rare a bird in this state to be taken into consideration in respect to food-habits, and the Magpie certainly can be put out of the question of doing any possible harm for the same reason. This leaves then to be considered, the Jays, of which we seem to have six or seven distinct kinds; but only two of these are at all common. The Blue Jay is found over the entire state, and is familiar to everybody. The second species is found only in the western and north-western portions among the pine forests, and is known as the Pinon Jay or “Camp-robber”—the latter name not very flattering to the bird I must confess.

The Blue Jay does much of the mischief that is laid at the door of the Robin, orioles, thrushes, and other birds, and then sneaks away unobserved. He also destroys large numbers of insects and robs the nest of some small birds.

In the Bobolink, Meadowlark, Orioles, and Black-birds, we have some of the most important insect destroyers among the feathered tribes. The Bobolink is with us only during the summer months when it is entirely insectivorous; and the same can be said of the Cowbird, although the latter has the bad habit of compelling other birds to rear its young.

In the Red-winged Blackbird we have a friend that we little dream of when we see the large flocks gathering about our corn-fields during late summer, and early fall. During the balance of the year it is engaged most of the time in waging war on various insect pests, including such forms as the “grub-worms,” cut-worms, grasshoppers, army worm, beet caterpillar, etc. Even when it visits our corn-fields it more than pays for the corn it eats by the destruction of the worms that lurk under the husks of a large per cent of the ears in every field.

Bobolink.



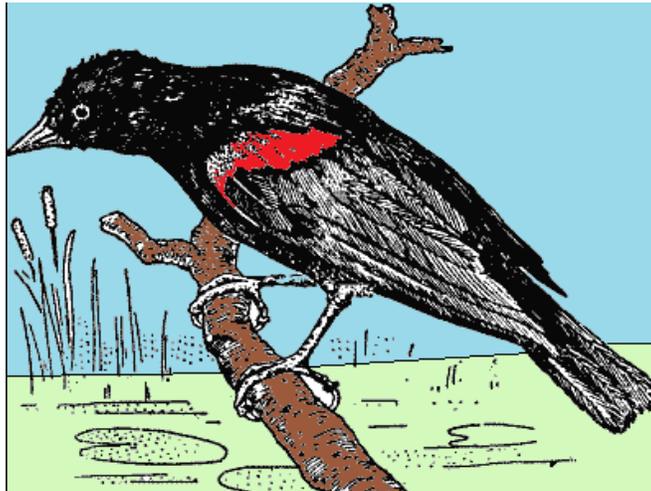
Several years ago the beet fields in the vicinity of Grand Island were threatened great injury by a certain caterpillar that had nearly defoliated all the beets growing in many of them. At about this time large flocks of this bird appeared and after a week's sojourn the caterpillar plague had vanished, it having been converted into bird tissues. Numerous other records of the efficiency of their labor as destroyers of insect pests might be quoted in favor of this bird, but I do not believe this to be necessary, although considerable evidence has been recorded of its destroying both fruits and grains.

The Baltimore Oriole has received such a bad reputation here in Nebraska as a grape thief during the past few years that I feel inclined to give extra time and space in endeavoring to “clear him” of such an unenviable charge. This,

however, I hardly think necessary when the facts in the case are known. As insect destroyers both this bird and the Orchard Oriole have had an undisputed reputation for many years: and the kinds of insects destroyed by both are of such a class as to count greatly in their favor.

Caterpillars and beetles belonging to injurious species comprising ninety-six per cent of the food of three specimens killed is the record we have in their favor. On the other hand, grapes have been punctured only “presumably by this bird, since he has so frequently been found in the vineyard and must be the culprit.” Now I myself have seen the Oriole in apple orchards under compromising circumstances, and have heard pretty strong evidence to the effect that it will occasionally puncture ripe apples. It also belongs in the same family with some generally accepted “rascals” hence I will admit that possibly some of the charges with which he is credited may be true; but I still believe that most of the injuries to grapes in this and other states must be laid to the English Sparrow.

Red-winged Blackbird.



If we take pains to water our birds during the dry seasons they will be much less apt to seek this supply from the juices of fruits that are so temptingly near at hand. Place little pans of water in the orchard and vineyard where the birds can visit them without fear of being seized by the house cat or knocked over by a missile from the alert “small boy,” and I am sure that the injury to fruit, to a great extent at least, will cease.

Recent investigations tend to prove that the Grackle or Crow-Blackbird does more good than harm and should be protected.

Our Sparrows and their allies, taken together, form a very extensive family of very beautiful as well as useful birds. Like the warblers, they occupy themselves with searching for and destroying insects all summer long; but this is not all they do that is good. In fall, winter, and early spring, when Mother Earth has lost her brilliant green and rests in sombre browns or beneath ice and snow, the longspurs, Snow Bunting, Snowbird, and some of the sparrows that have remained with us are busily engaged in gathering for themselves a living. They hop and fly about from place to place searching for and picking up little seeds of grass, grain and weeds, of shrubs and trees, and appropriating the same to their use, chirping merrily as they work away. The European House Sparrow, or the English Sparrow as it is more commonly called, has the worst reputation of the entire family. But even this bird has some redeeming traits.

The Tanagers are insect destroyers, feeding for the most part on such forms as attack the foliage of trees.

All of our Swallows are insect destroyers, capturing such forms as gnats, flies, etc., which they seize while on the wing. The large colonies of different species of these birds that breed within the state, as well as those that pass through during their migrations, destroy great numbers of these insects. They should be protected.

The Waxwings, both the Cedar Bird and Bohemian Waxwing, feed principally upon berries, etc., which they find throughout the year. Still, in his studies of the food contents of the stomachs of a variety of birds taken in a certain orchard that was overrun with canker worms, Professor Forbes found that the seven specimens of the Cedar Waxwing had eaten nothing but canker-worms and a few dung beetles, the latter in such small numbers as to scarcely count. The number of caterpillars eaten by each bird ranged from 70 to 101.

The Shrikes or "Butcher Birds" are known as veritable "brigands" or "pirates" when it comes to the destruction of other forms of life. They are true to their name, and "butcher" for pastime large numbers of insects, mice, lizards, small snakes, and even a few birds. They then fly to some thorn bush or barbed-wire fence and impale the luckless victim and leave it for future use, or to dry up and finally blow away. The good they do will outweigh the harm.

The food of the various Greenlets or Vireos is made up almost entirely of insects, of which a large per cent are caterpillars, such as infest shade trees and the larger shrubs. They should be protected and encouraged, about the orchard in particular.

In the words of that pleasing writer, Dr. Elliott Coues,^[5] "The Warblers have we always with us, all in their own good time; they come out of the south, pass on, return, and are away again, their appearance and withdrawal scarcely less than a mystery; many stay with us all summer long, and some brave the winters in our midst. Some of these slight creatures, guided by unerring instinct, travel true to the meridian in the hours of darkness, slipping past like a 'thief in the night,' stopping at daybreak from their lofty nights to rest and recruit for the next stage of the journey. Others pass more leisurely from tree to tree, in a ceaseless tide of migration, gleaning as they go; the hardier males, in full song and plumage, lead the way for the weaker females and yearlings. With tireless industry do the warblers befriend the human race; their unconscious zeal plays due part in the nice adjustment of nature's forces, helping to bring about the balance of vegetable and insect life without which agriculture would be in vain. They visit the orchard when the apple and pear, the peach, plum, and cherry are in bloom, seeming to revel carelessly amid the sweet-scented and delicately-tinted blossoms, but never faltering in their good work. They peer into the crevices of the bark, scrutinize each leaf, and explore the very heart of the buds, to detect, drag forth, and destroy those tiny creatures, singly insignificant, collectively a scourge, which prey upon the hopes of the fruit-grower, and which, if undisturbed, would bring his care to naught.

Some warblers flit incessantly in the terminal foliage of the tallest trees; others hug close to the scored trunks and gnarled boughs of the forest kings; some peep from the thicket, coppice, the impenetrable mantle of shrubbery that decks tiny water-courses, playing at hide-and-seek with all comers; others more humble still, descend to the ground, where they glide with pretty mincing steps and affected turning of the head this way and that, their delicate flesh-tinted feet just stirring the layer of withered leaves with which a past season carpeted the ground. We may seek warblers everywhere in the season; we shall find them a continued surprise; all mood and circumstance is theirs.”

Much could be written concerning the food-habits of the various members of the group of Thrushes, Mocking-birds and Wrens. Three of the species at least are known to be more or less destructive to fruits, viz., Catbird, Brown Thrasher, and Mocking-bird. Still, if we take into account what these birds eat during the entire time spent within the state, the balance sheet stands in favor of the birds as insect destroyers. The wrens are pre-eminently insect destroyers, and the others are not much behind them in this respect.

The members of the family of Nuthatches and Tits feed for the most part on insects. But we lack very definite figures regarding the kinds and numbers of insects that each destroys. We can be sure, however, that any favors shown them will not be thrown away.

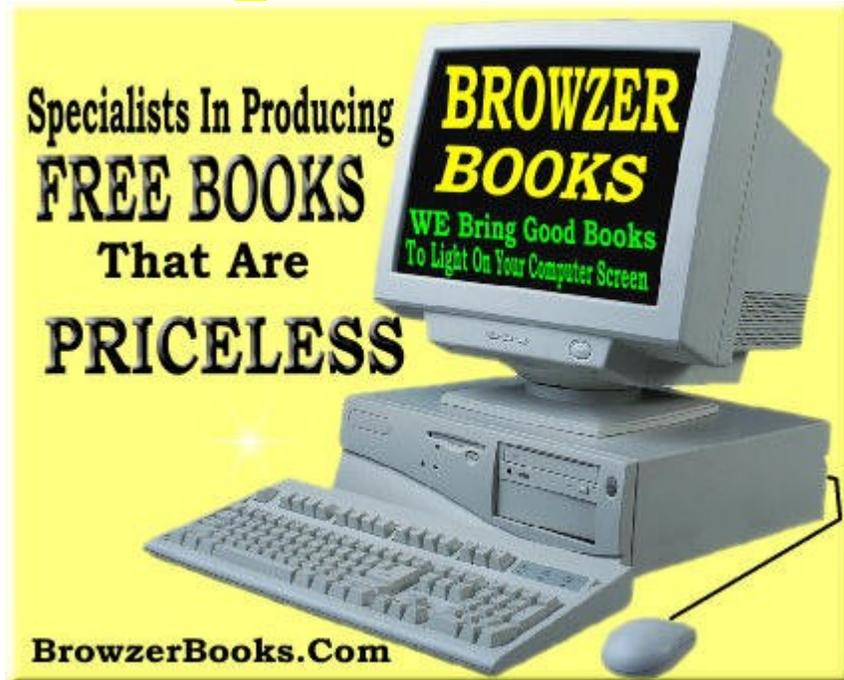
The Thrushes, Solitaires, Bluebirds, etc., are all beneficial as insect destroyers, and might be well compared with the Robin, which is described quite fully beyond, only they are even less liable to commit injuries to fruits.

The Robin has certainly been accused often enough of being a first-class rascal to warrant the belief that there must be at least some grounds for such accusations being made. In his examination of one hundred and fourteen stomachs of this bird, taken during ten months of the year, Professor Forbes, of Illinois, found the contents to consist of sixty-five per cent insects and thirty-four per cent of fruits and seeds. In the estimates of these food percentages taken by the Robin, as well as by other birds, bulk for bulk is taken, i. e., a quart of caterpillars or other insects is equivalent to a quart of cherries or a quart of berries. Professor Forbes asks this question: “Will the destruction of seventeen quarts of average caterpillars, including at least eight quarts of cut-worms, pay for twenty-four quarts of cherries, blackberries, currents, and grapes?” and then answers it in these words: “To this question I, for my own part, can only reply that I do not believe that the horticulturist can sell his small fruits anywhere in the ordinary markets of the world at so high a price as to the Robin, provided that he uses proper diligence that the little huckster doesn’t overreach him in the bargain.”

Much more might be said in favor of the Robin had I the time and space at my command.

After having carefully scanned the foregoing notes concerning the food-habits of our birds we cannot afford to continue indifferent to our treatment of them, nor can we even allow our neighbors to kill them though we ourselves have decided to reform in this respect. We must work for a change of heart in our neighbors also.

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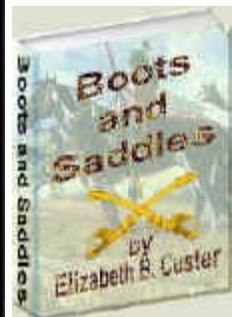
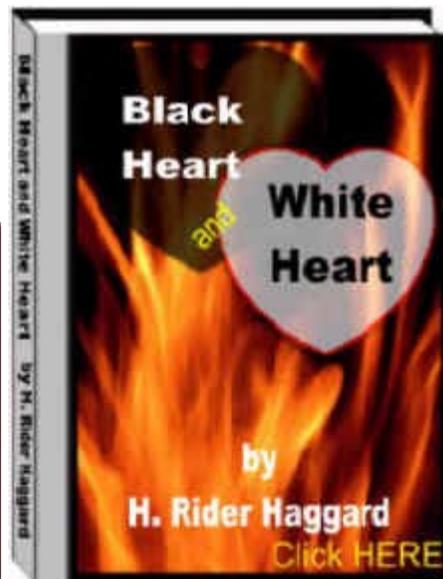
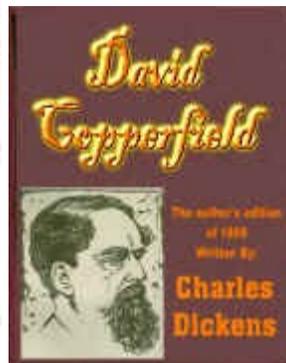
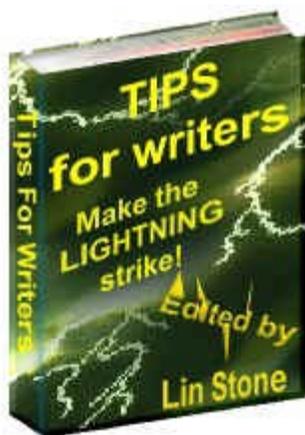


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