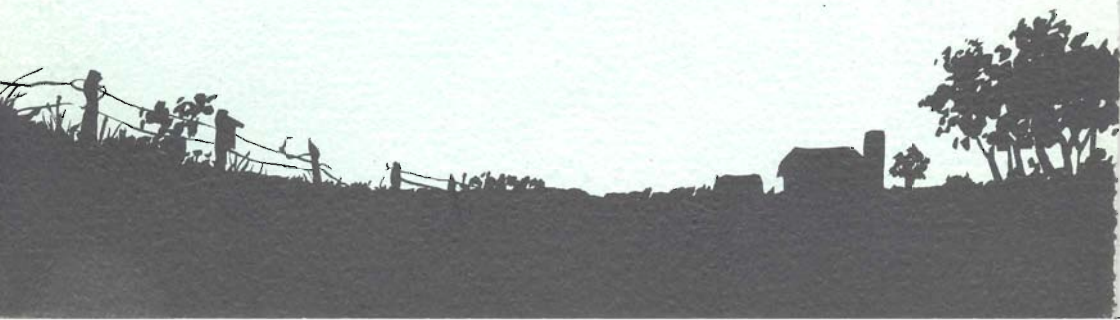


Sialia

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Of
The North American
Bluebird Society



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Sialia means bluebirds. Hence the title of this journal. Technically, **sialia** is the Latinized, neuter plural version of the Greek word **sialis**, a noun meaning a "kind of bird." Since the Eastern Bluebird was the first bluebird classified by Carolus Linnaeus (1707-1778), he gave it the species name **sialis**, though he placed it in the genus **Motacilla**, which is now reserved for the wagtails. It was William Swainson (1789-1855), who, in 1827, decided that the bluebirds needed a genus of their own within the thrush family (Turdidae). He selected the generic name **Sialia** which he simply adapted from the species name **sialis** which Linnaeus had used. Therefore, the scientific name for the Eastern Bluebird is **Sialia sialis** (pronounced see-ahl'-ee-ah see'-ahl-iss). Similarly, the Western Bluebird and Mountain Bluebird, the two other species within the genus, were named **Sialia mexicana** and **Sialia currucoides** (coo-roo-coy-dees) respectively. Their species names are descriptive of their locations. All three bluebird species are native only to the North American continent, although each inhabits different regions generally separated by the Rocky Mountains and by altitudinal preferences.

While the adult birds all show differing plumages, the young of all three species look remarkably alike, prominently displaying spotted breasts and large white eye rings. This similarity in plumage was the principal reason the Society chose the juvenile bluebird for its logo. Since bluebirds almost always choose to raise their young in small enclosed cavities, a young bluebird sitting near a nesting box seemed to symbolize our mission. The hope of any species resides in its young. Because of bluebird nesting preferences, the survival of their young may depend on the nesting box, especially since natural cavities, for a variety of reasons, are disappearing rapidly. The theme of bluebird young nurtured in man-made structures will be a recurring one in our art and literature. We hope that this theme will remind all about the plight of the bluebird, and will stimulate action which will allow this beautiful creature to prosper.

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Sialia

The Quarterly Journal
About Bluebirds

Volume 3, Number 3
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COVER

A Red-breasted Nuthatch is the cover drawing by Art Editor Suzanne Pennell Turner.

SIALIA welcomes the submission of articles, artwork and photographs for publication. Although this journal is dedicated primarily to the bluebird, material relating to native cavity nesting species will also be considered. Manuscripts should be neatly typed and double spaced. All material submitted for publication is subject to editing or rewriting. Include a duplicate copy if you wish to proof the manuscript before publication. All manuscripts will be acknowledged. Black and white glossy photographs or negatives are preferred. Print the subject, names of any individuals pictured, photographer and return address on back of each photograph. Before preparing tables, graphs or other display material, please check with the editor about the requirements of our reproduction process. Art is welcome and should be in black pen-and-ink. The editor's address is 10617 Graeoch Road, Laurel, Maryland 20810.

Presidential Points

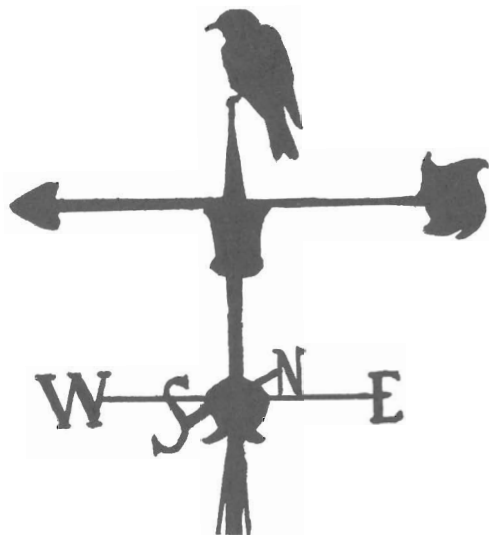
George N. Grant

It is 9 May and I have just finished checking my bluebird nesting boxes for the first time this year since cleaning them in mid-March. At present I have 170 boxes out, all placed in pairs, which does seem to discourage Tree Swallows, in most instances, from taking both boxes. This aspect of bluebirding is also being studied by other trail operators and more information will be forthcoming in future articles.

To date I have bluebirds using 16 of the boxes. I have no count on the Tree Swallows as they are just commencing to build nests and, at this point, only one Tree Swallow egg was located. It does appear that in this area the bluebirds were early this year and the Tree Swallows late.

The most discouraging aspect of this box check was the fact that 37 of the boxes had House Sparrow nests in them. To make matters even worse, the male House Sparrow had, in many instances, taken over the second box of a pair and used it as a roosting box. Like many other trail operators, I find House Sparrows to be my most serious problem on the bluebird trail. Likewise, I think it presents the greatest challenge to NABS in its efforts to restore the bluebird population.

The House Sparrow in competing for nesting sites will,



through its aggressive behavior, forcibly evict other species, destroy their eggs, kill their young and, in many cases, kill the adults birds if they attempt to defend their nest. This weekend I found four dead Tree Swallows with House Sparrow nests built over the top of them.

The sparrows will continue to rebuild their nest if it is removed, and, if you are successful in disposing of the female on the nest, the male will quickly find a new mate. Killing a few House Sparrows here and there is certainly not the long range answer to the problem.

I feel from my own experience and that of other bluebirders that, almost without exception, the claims, methods, or tricks for excluding House Sparrows from boxes on the trail simply are not effective or practical. Let's face it, sparrows are intelligent, aggressive, adaptable, and persistent.

Much more research must be done in this area. I hope that one day we will find a way to control House Sparrows. Need I add that I look forward to that day? ■

PONDEROSA

The Ecology of a Tree "Made" for Bluebirds

Ben Pinkowski

Collectively, the breeding ranges of Eastern Bluebirds (*Sialia sialis*), Western Bluebirds (*S. mexicana*), and Mountain Bluebirds (*S. currucoides*) cover nearly all of the United States and a large part of Canada. Except for a broad area in the western U.S. where the ranges of Western and Mountain Bluebirds overlap, however, it is uncommon to find two species breeding in the same general region. Western and Eastern Bluebirds sometimes nest near one another in the Southwest, and the breeding ranges of Eastern and Mountain Bluebirds overlap in a narrow belt in the Northern Great Plains. Current ecological theory dictates that bluebirds, like other closely related species, are kept apart by the so-called law of competitive exclusion.

Ecological theories notwithstanding, it may be instructive to ask where, if anywhere, do the nesting ranges of all three bluebirds overlap, and where are all three species likely to occur together in a nesting season? These are important queries; the answers will tell us much about the ecological requirements of the entire genus *Sialia* and, more importantly, they will indicate what type of habitat best satisfies four principal requirements of breeding bluebirds: nest cavities, foraging perches, sparse ground vegetation, and abundant prey species. Any area harboring three species, each quite like the others yet having a subtle uniqueness, would probably be rich in resources; otherwise, one or more of the less adapted species would be eliminated.

Instances of all three bluebird species breeding in the same area are apparently rare. I recently conducted a thorough literature search and turned up only a single such record: at the Evans Ranch at the base of Mt. Evans

on the Colorado Front Range. For this record to come from Colorado is not surprising. Bailey and Niedrach, in their *Birds of Colorado*, describe the Eastern Bluebird as a fairly common summer resident in eastern Colorado, the Western as fairly common in certain mountain zones, and the Mountain as simply common, occasionally numerous in winter. In my experience throughout the western U.S., I have found some of the highest densities of nesting bluebirds in areas that, like the Evans Ranch, are dominated by large Ponderosa Pine (*Pinus ponderosa*) trees mixed with a few Quaking Aspens (*Populus tremuloides*). During June 1979, for example, I was regularly awakened by the pre-dawn chorus flights of what sounded like hundreds of Mountain and Western Bluebirds in Ponderosa Pine forests that dominated mid-elevations of a study area in Park County, Colorado (Figure 1). Searches of other habitats turned up only smaller numbers of birds, and I quickly came to associate peak bluebird numbers with the presence of one particular tree species—the Ponderosa.

Ponderosa Pine, sometimes called "Yellow Pine" because of the bright yellow color of the bark plates on older trees, is the most widely distributed pine in the U.S. It occurs naturally on over a million square miles from North Dakota to British Columbia, south to Mexico. The elevational range of the Ponderosa is also great; it can be found at sea level in the northwest, while to the south it occurs at progressively higher elevations up to 9,000 feet or more. Though pure stands of Ponderosa are common throughout its entire range, a common associate, Douglas Fir (*Pseudotsuga menziesii*) often occurs with Ponderosa and occupies the moist, north slopes.

The large range of Ponderosa Pine makes it available to bluebirds in widely separated geographic areas. Both Eastern and Mountain Bluebirds use Ponderosa Pines for nesting in the Black Hills of Wyoming and South Dakota, where this tree covers over one million acres of forest. Western and Eastern Bluebirds inhabit Ponderosa forests in southern Arizona, though the latter seems to prefer somewhat lower elevations that are dominated by one of several native species of oaks (*Quercus* sp.). Both Western and Mountain Bluebirds use Ponderosa Pine snags and living trees for nesting in the Sierra Nevada-Cascade system as well as in the Rocky Mountains. Locally in the Sierra Nevada, however, Ponderosa Pine is replaced by its close relative, Jeffrey Pine (*Pinus jeffreyi*), which forms borders around higher flatlands favored by Mountain Bluebirds.

What is it about a Ponderosa Pine forest that makes it so attractive to bluebirds? Unlike most large softwood trees and virtually all large hardwoods,

Ponderosa Pine is capable of surviving on very little moisture. This species is often the first large tree encountered during an ascent of any of the major mountain ranges of the west. It characterizes a "transition" zone separating the arid scrublands, dominated by shrubs or small trees such as Big Sagebrush (*Artemisia tridentata*), juniper (*Juniperus* sp.), and dwarf Pinyon Pine (*Pinus edulis*), from the more humid spruce (*Picea* sp.) and fir (*Abies* sp.) forests occurring at higher elevations. Annual precipitation on these Ponderosa-clad forests may be as low as 10 inches, though it averages about 16 to 18 inches and may be as high as 30 inches or more. Precipitation in summer (July and August) may be lacking altogether or extremely sporadic. To survive these arid conditions where other tree species fail, Ponderosa Pine seedlings send down a vigorously growing taproot that may reach nearly two feet in length during the first year of life.

Consumption of available moisture is high, almost excessive, through-



Photograph by B. C. Pinkowski

Figure 1. A Ponderosa Pine forest in Pike National Forest, Park County, Colorado. Note the well-spaced trees and the lack of dense understory and ground cover. Pike's Peak appears in the right background. Over 40 Mountain and Western Bluebird nests were found in natural cavities during 1979 in the area shown, June 1979.

out the life of a Ponderosa Pine tree, and I believe it is this extravagance that makes the Ponderosa forests nearly perfect habitats for bluebirds. By sending down an enormous root system and by consuming large amounts of available moisture, the pines have two important effects that are beneficial to bluebirds: 1) the forest understory, deficient in moisture, is devoid of thick-growing shrubs that impede bluebird foraging, but instead consists of grasses, a few hardy forbs, and scattered, low-growing shrubs; and 2) the mature trees, anchored firmly to the soil and capable of surviving strong winds, are scattered and well-spaced. Competition for moisture contributes to this spacing so that the canopy of a mature forest covers no more than 25% of the ground surface under natural conditions. The resulting woodland, open, grassy, and park-like, constitutes nearly ideal foraging habitat for bluebirds.

Ponderosa Pines mature to a large, "ponderous" stature. It is not uncommon to find trees reaching heights of 100 feet or more, with trunk diameters exceeding 3 feet. "Champion" trees are limited mostly to the west coast, where heights may exceed 200 feet and diameters may be 7 feet or more! Such large trees are acceptable to a variety of cavity-nesting species that excavate in their soft wood. Common Flickers (*Colaptes auratus*), Downy Woodpeckers (*Picoides pubescens*), Hairy Woodpeckers (*Picoides villosus*), Williamson's Sapsuckers (*Sphyrapicus thyroideus*), and Yellow-bellied Sapsuckers (*Sphyrapicus varius*) often inhabit mature Ponderosa forests and construct cavities that are later used by bluebirds. Overall, however, the diversity of birds breeding in pure Ponderosa forests is low; sometimes no more than 20 to 25 species are present, and a large proportion of these (up to 50%) may nest in cavities.

Low branches of mature Ponderosa Pines die and provide excellent foraging perches for bluebirds. These old trees are surprisingly fire resistant, but the dry forest floor will burn readily. Under natural conditions,

surface fires started by lightning burn the understory of Ponderosa forests at regular intervals of five to ten years. The result is a "mosaic forest" consisting of distinct stands of trees, each of a certain age group. These multi-storied stands afford bluebirds a variety of foraging perches, some low and suitable for hunting ground prey and others high for use in searching for aerial prey. Elimination of ground litter by surface fires also produces a lush growth of grasses, which in turn supports grasshoppers, spiders, and other invertebrates that serve as prey for bluebirds.

Lightning commonly damages old-growth Ponderosa Pines, particularly isolated trees or those extending higher than the general crown canopy. Although lightning may kill the tops of tall, older trees, it is not always fatal. Affected trees may remain standing for many years and the dead wood is subject to repeated excavations by woodpeckers, resulting in numerous cavities acceptable to bluebirds and other species. It is not uncommon to find 20 or more cavities in a single, large Ponderosa that has been struck by lightning!

Western Bluebirds are particularly fond of the berries of Dwarf Mistletoe (*Arceuthobium vaginatum*), another damaging agent of Ponderosa Pine. This parasitic plant is capable of spreading by explosively discharging its seeds to infect trees up to 50 or more feet away. These seeds may adhere to birds' feathers and be transmitted long distances, thereby infecting other trees. Lightly infected trees may experience growth loss, and heavily infected trees may be directly killed by the parasite or suffer reduced vigor, only to be "finished off" by insects such as bark beetles. Although annual timber losses attributable to Dwarf Mistletoe have been estimated at over three billion board feet in the western states, the parasite is beneficial to bluebirds in providing them with fruit as well as dead trees and limbs for nesting places and foraging perches.

Shrubs associated with Ponderosa Pine, though widely scattered and

infrequent, may also supply fruit for bluebirds, mostly in late summer and fall. Common and One-seeded Junipers (*Juniperus communis* and *J. monosperma*), Chokecherry (*Prunus virginiana*), Thimbleberry (*Rubus parviflorus*) and the related raspberries and blackberries, Saskatoon Serviceberry (*Amelanchier alnifolia*), and various kinds of currants (*Ribes* sp.) have all reportedly been eaten by bluebirds and often grow in and around Ponderosa forests. Additionally, some species of junipers serve as hosts for American Mistletoe (*Phoradendron juniperinum*), the fruits of which are relished by bluebirds.

Except for Douglas Fir, Quaking Aspen is the tree most often found growing with Ponderosa Pine, particularly in the central Rocky Mountains and Black Hills. Sometimes called Trembling Aspen or Poplar, this is the most widely distributed tree species in North America. When associated with Ponderosa, however, aspen often forms small groves that may measure no more than a few acres in size (Figure 2). These groves are common

on recently burned areas and are formed when surviving trees extend lateral roots that may reach nearly 50 feet. A variety of wood-rotting fungi infect aspen, making its wood particularly suitable for excavation by woodpeckers, especially sapsuckers. Bluebirds commonly nest in these cavities while foraging in the more extensive, open Ponderosa Pine forests that surround an aspen grove.

Unfortunately, today there are few remnants of the primeval, park-like Ponderosa Pine forests that once covered large portions of the western U.S. There are two main reasons for this: forest fire suppression and overgrazing by livestock. Total fire exclusion, beginning with the early explorers and settlers, results in a forest much denser than would occur if natural fires had been allowed to burn. These ecologically "disturbed" forests may be more appropriately described as impenetrable pine thickets rather than magnificent, open parks. Because of acute competition for



Photograph by B. G. Pinkowski

Figure 2. Trembling Aspen and Ponderosa Pine in Pike National Forest, Colorado. Two Mountain Bluebird nests and one Western Bluebird nest were in the aspens shown here. Note the open aspect of the area around the aspen grove. July 1979.

available soil moisture, young trees are slow to attain a mature size acceptable for cavity excavation. Effects of fire suppression are particularly noticeable in the Black Hills, where some excessively dense stands of old but under-sized trees are acceptable to bluebirds only after selective lumbering.

Impacts due to over-grazing by domestic stock are not as predictable as impacts from forest fire control. Bluebirds often benefit from grazing, especially in areas where a thick understory would otherwise occur, but elimination of the grassy understory of a pine forest reduces food available to prey species such as grasshoppers. Under some circumstances the reduction in grasses through grazing may enhance the number of surviving pines, thereby forming an excessively dense stand of stunted trees. Whether formed through over-grazing or total fire suppression, a dense pine forest eventually becomes vulnerable to a hot, crown fire which may destroy it entirely, thereby converting an entire woodland to brushland. Parts of the Sacramento Mountains in southern New Mexico are now covered with junipers and scrub oaks after hot, crown fires killed off the mature Ponderosa Pines that served as a seed source.

The ecology of bluebirds in Ponderosa forests is complex and obviously extends well beyond the stately pines. In the American West, where the merits of wildlife are traditionally evaluated in terms of the dollar, this complexity is now being compounded by pressures to develop vast energy resources that underlie the region. It is necessary, then, to define those habitats that are most important to the survival of bluebirds and all of their interrelated elements. Here we have examined one such habitat, one not uncommon and one not noted for its richness of avian species, yet a habitat so uniquely suited to all three bluebirds so as to appear made especially for them. ■

Bibliography:

Bailey, A. M. and R. J. Niedrach. 1965. *Birds of Colorado*. Denver Museum of Natural History.

Beal, F. E. L. 1915. Food of robins and bluebirds of the United States. U.S. Dept. Agriculture. *Biological Services Bulletin* 171.

Cooper, C. F. 1960. Changes in vegetation, structure, and growth of southwestern pine forests since white settlement. *Ecological Monographs* 30:129-164.

Daubenmire, R. F. 1943. Vegetation zonation in the Rocky Mountains. *Botanical Review* 9:325-393.

Hawksworth, F. G. 1979. Mistletoes and their role in North American forestry. pp. 13-23. In *Second International Symposium on parasitic weeds*. North Carolina State University, Raleigh.

Hudler, G. W. and N. Oshima. 1979. Bird dissemination of dwarf mistletoe on ponderosa pine in Colorado. *American Midland Naturalist* 102:273-280.

Miller, A. H. 1951. An analysis of the distribution of the birds of California. *University of California Publications in Zoology* 50:531-644.

Pinkowski, B. C. 1980. High density of avian cavity-nesters in aspen. *Southwest Naturalist* in press.

Randall, C. E. 1979. Ponderosa! *American Forests* 85:30-33, 60-62.

Rummell, R. S. 1951. Some effects of livestock grazing on ponderosa pine forest and range in central Washington. *Ecology* 32:594-607.

Weaver, H. 1961. Ecological changes in the ponderosa pine forest of Cedar Valley in southern Washington. *Ecology* 42:416-420.

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Plastic Greenery Screens for Nesting Platforms

Hubert W. Prescott

At my home in Oregon success in attracting either American Robins or House Finches to nest on open platforms placed under the shelter of eaves can be increased many fold simply by tacking plastic greenery (imitation ferns or leafy twigs) to all sides of the platforms in order to create a screen about six inches high. This enables the nesting bird to scan the surrounding area through the interstices of the screen without being seen. A small gap should be left in the back or on one side of the screen for the bird to pass through on entering or leaving the nest platform.

Pictured is one such platform under the eaves of my residence. In this particular instance, instead of being fastened to the wall, it is saddled on a drain pipe that led from the edge of the eave and then back to the wall before turning down to the ground. A robin is shown incubating her eggs. Part of the plastic screen was removed from one side to facilitate photography. Plastic greenery can be purchased at most of the larger floral shops and department stores. ■

13505 S. E. River Road
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photograph by Hubert W. Prescott

Nesting platform showing plastic greenery screens. Platform is being used by American Robins.

NUTHATCHES USE NESTING BOXES, TOO

Lawrence Zeleny

One might expect that any creature which does not know the difference between down and up would surely be in serious trouble. Yet all of our nuthatches seem to come close to falling into that category. These appealing but strange-acting little birds with bluish gray backs scamper over the branches and trunks of trees either up or down with equal facility—and always head first. They have learned that in this way they can inspect the crevices in the bark for insects and insect eggs with greatest efficiency.

Nuthatches are well-known to most people who feed the winter birds. They are fond of sunflower seeds, nutmeats, and suet; and in winter do not hesitate to come to feeders for these delicacies. They are often quite tame and with a little patience can be induced to come to the hand for food. One winter I had a White-breasted Nuthatch that would fly to me whenever I went out of my back door. He would alight somewhere on my clothing and proceed to go over me as thoroughly as though I were the trunk of a tree. He would search for and find the small pieces of nuts that I had hidden away, sometimes even behind my ears or between my lips.

Nuthatches, like bluebirds, are strictly cavity-nesting birds, but unlike bluebirds they often prefer to excavate their own nesting cavities in dead trees or branches. They will sometimes use nesting

boxes if they are in the proper locations. Nuthatches use quite a variety of nesting materials depending on their availability, but shreds of bark are the most common materials used for the body of the nest. The nest may then be lined with fine grasses, feathers, or animal hair. Rabbit fur, when available, seems to be a favorite nest lining for all nuthatches. Nuthatch eggs are white, more or less heavily speckled with reddish brown. The clutch usually consists of from five to eight eggs.

One or more of the four North American species of nuthatch may be found during the nesting season in nearly all parts of the United States and southern Canada with the exception of Alaska and Hawaii and a rather narrow north-south corridor through the Great Plains.

The White-breasted Nuthatch (*Sitta carolinensis*) is the most widely distributed of the four species. It breeds throughout most of North America. It is the largest and most conspicuous of the nuthatches. In spite of its larger size this nuthatch rarely excavates its own nesting hole. Instead it usually selects natural cavities in dead trees or branches or old woodpecker holes. Bluebird trail operators occasionally find these nuthatches nesting in one of their nesting boxes, but they rarely, if ever, compete seriously with bluebirds. All nuthatches are woodland birds and prefer to nest in or close to

wooded areas. Bluebirds, on the other hand, prefer the more open spaces.

The Red-breasted Nuthatch (*Sitta canadensis*) breeds in Canada and the northern parts of the northern states, as well as considerably farther south in the mountainous regions of the country. In the winter the Red-breasteds move southward or to lower elevations and are sometimes found in nearly all parts of the United States except the Deep South. This is the only one of the four North American nuthatches that is appreciably migratory.

I have always considered it a special privilege when these beautiful little birds show up at my feeder in the winter. Their winter movements are very unpredictable, so one never knows when or if they will appear. Their habits are similar to those of their white breasted cousins, but they move about more quickly and are inclined to search for food among the smaller branches rather than the trunks of trees. Red-breasted Nuthatches usually excavate their own nesting cavities but will also use nesting boxes in partly open wooded areas.

The Brown-headed Nuthatch (*Sitta pusilla*) has a rather limited range in the southeastern part of the United States where it is a permanent resident. The very similar Pygmy Nuthatch (*Sitta pygmaea*) is a western bird that inhabits primarily the Rocky Mountain region. Both of these species are found largely in or near coniferous woodlands since a considerable part of their food consists of the seeds and insects that they extract from the cones of coniferous trees.

Except during the nesting season these tiny nuthatches are

usually seen wandering through the woods in sizable flocks in search of food. They are a great pleasure to watch as they flit about rapidly while carrying on a happy sounding conversational twittering.

Both the Brown-headed and Pygmy Nuthatches commonly excavate their own nesting cavities. However, the Brown-headed, and probably also the Pygmy, is quite often willing to accept nesting boxes. Both species seem quite friendly and are frequently seen close to human habitations.

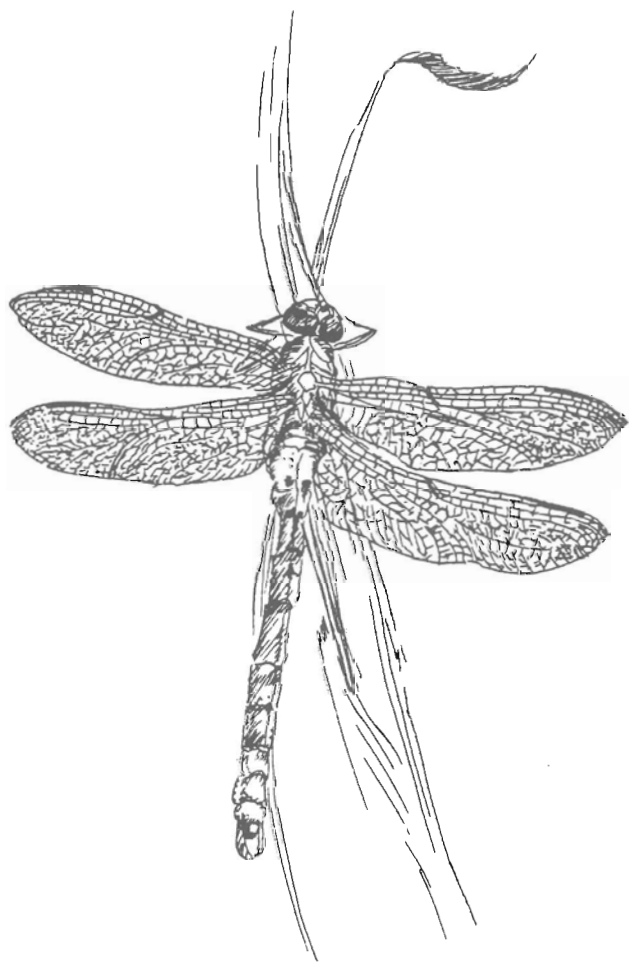
Eleven years ago I made a wren nesting box for friends in North Carolina. I made the opening 1-1/16 inch in diameter so that it could be used by either wrens or chickadees, but not by House Sparrows. They mounted the box on a pine tree less than 40 feet from their house. Much to their surprise and delight (as well as mine) Brown-headed Nuthatches have raised their broods in this box every year for the past ten years—a rather remarkable record!

Nesting boxes for all species of nuthatches should be made of wood, preferably at least 3/4 inch thick. The bottom of the entrance hole should be about 6 inches above the floor, the inside dimensions of the floor should be about 4 x 4 inches, and the floor should have small drainage holes near the corners. The diameters of the entrance holes may be as small as 1 1/4 inch for the White-breasted, 1-1/8 inches for the Red-breasted, and 1-1/16 inches for the Brown-headed and Pygmy Nuthatches. Larger entrance holes are readily accepted by all of these birds, but holes close to the minimum size provide greater protection from competing species and predators.

It is probably a good idea to roughen the inside of the front board of the nuthatch nesting box to provide footing for the birds, although this may not be strictly necessary. Be sure to construct the box so that the top, one side, or the front can be easily opened for observation and cleaning. Mount the boxes at a height of 6 feet or more on a post or tree in or very close to a rather open wooded area. There is a good chance that either nuthatches, chickadees, or wrens will occupy these boxes, and you will surely enjoy any of them.

If nuthatches choose to use one of your bluebird nesting boxes, by all means let them have it and put up another box nearby for the bluebirds. Neither of these two birds will object to the other one as a close neighbor, probably because their feeding habits are different so they do not compete with each other for food. ■

Editor's Note: Much of Dr. Zeleny's article was published originally in the *Nature Society News* issues of October 25, 1972, and October 29, 1979. We thank them for permission to reprint this material.



PARASITES OF THE EASTERN BLUEBIRD

Thomas H. Roberts

There is presently a dearth of information on the parasitic fauna of the Eastern Bluebird (*Sialia sialis*). Until recent years the study of parasites and parasitic diseases was largely confined to domestic or important game animals; and parasites of the majority of the wildlife species in North America received little attention. Bluebird populations have declined sharply during this century due to a shortage of suitable nesting cavities and to rising competition for the remaining sites from two introduced species, the House Sparrow (*Passer domesticus*) and the European Starling (*Sturnus vulgaris*) (Zeleny 1976). This decline has made it even more important to investigate not only the bluebird's parasitic fauna and their effect, but other phases of the bird's life history as well.

ECTOPARASITES

Mallophaga

Ricinus spp. (suborder Ambycera) was reported from bluebirds by Peters (1936). *Philoapterus sialii* (suborder Ischnocera) was listed by Peters (1936) and Malcomson (1960). There was no mention of pathology associated with either parasite although weight loss and irritation are commonly associated with heavy infestations of lice.

Siphonopera

Fox (1940) listed three fleas as parasites of the Eastern Bluebird. They included *Ceratophyllus idius*, *C. niger*, and *C. diffinis*. *C. diffinis* was the only flea mentioned from bluebirds by Benton and Shatrau (1965). They noted that is most commonly was found in the Northeast although it does occur sporadically throughout the country. The sticktight flea (*Echidnophaga gallinacia*) was mentioned as a likely parasite but was not confirmed. Boyd (1951) only listed the hen flea (*Ceratophyllus gallinae*) from bluebirds. None of these studies mentioned fleas as being particularly harmful to bluebirds although *E. gallinacia* caused weight loss, reduction in egg production, and even death due to loss of blood in domestic poultry (Turner 1971). They also indicate a lack of understanding concerning the pathology of fleas since only a few studies

have dealt with this problem and the results have often been contradictory.

Diptera

The blowfly (*Apaulina* spp.) (formerly *Protocalliphora*) is the most serious parasite of the Eastern Bluebird. The fly larvae are obligatory parasites and feed intermittently on blood by attaching themselves to the nestlings' feet, legs, abdomen, bill, wing and tail feathers (Mason 1944). The prevalence of infestation is high. Mason (1944) found that 94% of the bluebird nests he examined were infested with *Apaulina* larvae. Pinkowski (1977) found a similarly high occurrence of infestation; 82% of natural cavities and 85% of artificial cavities were parasitized.

Herman (1936), Mason (1944), and Kenaga (1961) all thought that *Apaulina* larvae were potentially serious threats to nestling survival. The numbers of fly larvae in a nest may be quite high (frequently as many as 150-200) and it is at these levels that the greatest effect is seen. Kenaga (1961) did not attribute any direct mortality to larvae parasitism but did find that fledgling growth was seriously retarded in nests with high infestations. Pinkowski (1977) found some nestling mortality in nests with heavy infestations (more than 130 flies per nest) and concluded that the parasite was a serious burden on adults as well as the nestlings, especially during periods of food shortages.

None of the management practices tried to date have been successful in eliminating *Apaulina*. Pinkowski (1977) suggested altering the size and shape of artificial cavities to more closely conform to natural ones as a means of reducing the number of flies per nest. This would not eliminate the parasite but could negate some of its effect.

Acarina

Only four species of mites have been reported from bluebirds. Peters (1936) listed *Analgopsis* spp. and *Dermanyssus progorephilus* as being parasites of bluebirds. All species of *Dermanyssus* are nidicolous and emerge from the shelter of the nest litter for brief periods of feeding at which time they become engorged with blood (Pettingill 1970). Pence (1973) studied nasal mites in Louisiana bluebirds and found *Sternostoma sialiphilus* on 1 of 19 bluebirds examined and *Boyaia spatulata* on 2 of 19 examined. *S. sialiphilus* also was reported from Michigan bluebirds by Hyland and Ford (1961). None of the studies reported acariosis to be of any significance to bluebirds.

ENDOPARASITES

Protozoa

Greiner *et al.* (1975) examined 56 bluebirds and found 4 with *Leucocytozoon dulreuii* and *L. majoris*, 5 with *Haemoproteus fallisi* and *H. oryzivora*, 2 with *Trypanosoma avium*, and 4 with *Plasmodium* spp. *Plasmodium*, *Haemoproteus*, and *Leucocytozoon* are sporozoa which cause malaria or malaria-like diseases. All destroy red blood corpuscles and may cause marked anemia and enlargement of the liver and spleen (Welty 1975); however, there was no mention of pathology in bluebirds from any of the 3 genera. Trypanosomes generally infect the blood or bone marrow but are extra-cellular parasites and are not usually pathogenic in birds (Welty 1975).

Nematodes

The eyeworm (*Oxyspirura pusillae*) was found in 2 of 7 bluebirds exam-

ined from Louisiana by Pence (1972). This was the first time that the species had been reported from bluebirds. The parasite apparently is not pathogenic because even in heavy infections of as many as 30 per eye no gross histopathology was demonstrated. Greiner *et al.* (1975) found microfilaria in 2 of 56 bluebirds they examined. Pathology of filarids in bluebirds has not been reported.

Trematodes

Kibler (1968) and Pinkowski (1975) reported the trematode *Collyriclum faba* from New York and Michigan respectively. The parasite causes subcutaneous cysts (4-6 mm) in the vent region. Occasionally the cysts may occur on the abdomen or breast. Kibler (1968) reported no marked pathology in this country but in other areas of the world heavily infected birds have evidenced emaciation, anemia, and death. Doss and Farr (1969) reported *Lyperosomum monenteron* from the Eastern Bluebird. The parasite is located in the gall bladder and bile ducts but apparently is not pathologic.

Summary

A perusal of the literature shows that parasites are not serious decimating factors of bluebird populations. Among the external parasites, only the blowfly (*Apaulina* spp.) is pathogenic to any extent and only then in cases of severe infestations. Others, particularly fleas, which are serious pests to other bird species, may be more harmful to bluebirds than now thought, although it has not yet been documented. None of the internal parasites found in bluebirds has been reported to be pathogenic although again this may just reflect a lack of study. ■

Literature Cited:

- Benton, A.H. and V. Shatrau. 1965. The bird fleas of eastern North America. *Wilson Bull.* 77(1):76-81.
Boyd, E.M. 1951. The external parasites of birds: a review. *Wilson Bull.* 63:363-369.

- Doss, M.A. and M.M. Farr. 1969. *Index-Catalogue of Medical and Veterinary Zoology. Trematode and trematode diseases*. U.S. Gov. Printing Office. Washington. 694 pp.
- Fox, I. 1940. *Fleas of eastern United States*. Iowa State College Press. Ames. 191 pp.
- Greiner, E.C., G.F. Bennett, E.M. White, and R.F. Coombs. 1975. Distribution of avian hematozoa of North America. *Can. J. Zool.* 53(12):1762-1787.
- Herman, C.M. 1936. Extoparasites and bird diseases. *Bird-Banding*. 7(4):163-166.
- Hyland, K.E. and H.G. Ford. 1961. *Sternostoma sialophilus* (Acarina: Rhinonyssidae) from the nasal passages of the eastern bluebird, *Sialia sialis* (Linnaeus). *J. Parasitol.* 47:101-104.
- Kenaga, E.E. 1951. Some insect parasites associated with the eastern bluebird in Michigan. *Bird-Banding*. 32:81-94.
- Kibler, L.F. 1968. Occurrence of the trematode *Collyriclum faba* (Bremser) Kossack (Trematoda: Troglotrematidae) in the eastern bluebird (*Sialia sialis*) in western New York. *Bull. Wild. Dis. Assoc.* 4:100.
- Malcomson, R.O. 1960. Mallophaga of North American birds. *Wilson Bull.* 72(2): 182-197.
- Mason, E.A. 1944. Parasitism by *Protocaliphora* and management of cavity nesting birds. *J. Wildl. Manage.* 8(3):232-247.
- Pence, D.B. 1972. The genus *Oxyspirura* (Nematoda: Thelaziidae) from birds in Louisiana. *Proc. Helmin. Soc. Wash.* 39:23-28.
- 1973. The nasal mites of birds from Louisiana. IX. Synopsis. *J. of Parasitol.* 59(5):881-892.
- Peters, S.H. 1936. A list of external parasites from birds of the eastern part of the United States. *Bird-Banding*. 7(1):9-27.
- Pettingill, O.S. 1970. *Ornithology in laboratory and field*. Burgess Publishing Co. Minneapolis. 524 pp.
- Pinkowski, B.C. 1975. First Michigan record of the trematode *Collyriclum faba* of an eastern bluebird. *Jack Pine Warbler*. 54:41.
- 1977. Blowfly parasitism of eastern bluebirds in natural and artificial nest sites. *J. Wildl. Manage.* 41(2):272-276.
- Turner, E.C. 1971. Fleas and lice. Pages 175-184 in J.W. Davis, R.C. Anderson, L. Karstad, D.O. Trainer (ed.), *Infectious and parasitic diseases of wild birds*. Iowa State Univ. Press. 344 pp.
- Welty, J.C. 1975. *The life of birds*. W.B. Saunders Co. Philadelphia. 623 pp.
- Zeleny, L. 1976. *The bluebird: how you can help it fight for survival*. Indiana Univ. Press. 170 pp.

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A Thought From the Blue

You can help us!!

We need nests. All of our former homes such as hollow trees, old fence posts and stumps have disappeared. We are homeless!

Just put up nesting boxes on your beautiful lawns, in parks, cemeteries, golf courses, campuses and green pastures.

Put them on posts five or six feet from the ground and about one hundred yards apart. Do not put them in the shade. We love the sunshine!

When you get to know us, you will love us, for we are friendly and beautiful and not a pest.

Poets proclaim us "The Bluebirds of Happiness."

With songs of happiness,
The Bluebirds of Virginia
(by Meade Flinn)



Correction

My article, "Reducing Swallow-Bluebird Competition," *Sialia* 3:49, contains an error. In the penultimate paragraph of the article I have stated that Tree Swallows and Violet-green Swallows nested amicably only 35' apart. The correct distance between the two nestboxes involved (Pair 4) is 17'.

Allen A. Prigge

TRAPPING MAKES THE DIFFERENCE

Joe Huber

House Sparrows are not a protected species so it is legal to use traps such as Mr. Huber describes in the following article. Any trapping scheme must be used with caution and in a responsible manner to avoid trapping protected species.

Everything we read today tells us that bluebirds are rural birds. This simply isn't true. The only place in our cities that bluebirds wouldn't find to their liking would be areas which are completely covered by pavement or buildings. A favorite feeding place for bluebirds is mown lawns which are common in towns and cities. All areas of our communities are not ideal for bluebirds just as all rural areas are not ideal. There are two main reasons why the bluebird doesn't nest in towns and cities today: 1) a lack of nesting places and 2) the presence of House Sparrows. I believe that these have been the two most important factors in causing the almost complete disappearance of bluebirds from most populated areas.

My bluebird trail is one of the few located inside any city limits. During the past several years I have obtained permission from selected lot owners as well as the managers of the nearby golf course to erect and regularly check bluebird boxes to help insure their success. The housing development where I live was started during 1963 in a rural area located at the edge of Newark and Heath, Ohio. It has since been incorporated into the city of Heath. As I have watched the area develop, I have noticed the changes in sparrow competition over the years.

During the past twelve years I have heard and read much about the bluebird-sparrow problem. This is a highly controversial subject as some people believe there isn't much of a problem, while others consider the House Sparrow the bluebird's worst

enemy. After working with bluebirds for more than a dozen years on an almost daily basis, I believe that I have learned much about their continuous battle with House Sparrows. During the first nine years of this twelve year period, I worked rotating shifts which gave me the opportunity to observe bluebird activity in all its phases. I have fed bluebirds during the winter, had them roost near my home at night during cold weather, and have observed their nesting cycle in my yard during the warmer months. At one time I could watch six bluebird boxes from inside my home which is a privilege not many people share.

When I first moved to my present location the new subdivision was not yet overrun with sparrows. This has changed and each year sparrow interference at the nesting boxes increases. I believe that the House Sparrow is the most widespread problem facing the bluebirds today. Each year sparrows increase as man develops land and erects buildings. Often land development doesn't make bad habitat for bluebirds; it may increase ideal habitat because bluebirds prefer open meadows and mown lawns near scattered woodlands. Unfortunately, many developed areas also become ideal habitat for House Sparrows.

I have experimented with several bluebird box designs over the years: hanging nest boxes, top-entrance boxes, and plastic jugs. I have tried a nest box located 23 inches off the ground and found that both bluebirds and sparrows would use it. Any nest box not attractive to sparrows proved equally unpopular with bluebirds. I finally decided to use a box the bluebirds liked and do the sparrow fighting myself.

Anyone who believes that bluebirds and sparrows will balance in

nature and does nothing to protect bluebirds from the foreign invader is, in reality, killing bluebirds. Many times I've heard or read of bluebirds who won a battle against House Sparrows. While this may be true in some cases, it is far from the final outcome. One victory doesn't end the problem; the war goes on—nest after nest, year after year, and usually the sparrows are the ultimate victors. The battle between bluebirds and sparrows for a nesting box ordinarily takes place only if bluebirds have claimed the box first and are returning to defend it. Daily observation during the nesting season teaches that all the battles between bluebirds and sparrows are a result of sparrow interference.

I have built a simple device for trapping sparrows inside a nesting box. At first the trap was mounted on a piece of ¼ inch plywood which could be inserted into almost any top opening box containing a sparrow's nest. When a sparrow enters the box it trips the trap and is trapped inside. It must be removed from the box by carefully slipping a hand into the top of the box while the roof is slid aside.

I now have seven bluebird boxes on my trail that have permanently installed sparrow traps which can be set any time a sparrow begins building a nest. The built-in sparrow trap can be incorporated into almost any nesting box design with a 3½ x 3½ inch or larger floor size, but it must be done at the time of assembly. I still use the portable trap on all the other top opening boxes when needed. Using this trap requires that you make a return trip to the box after several minutes to remove the sparrow or to disengage the trap.

During the last two years sparrows have taken over all but one bluebird box during early spring; however, through trapping, all House Sparrow competition at the boxes has been eliminated by mid-May. During the spring of 1979, I had 13 nest boxes on my neighborhood trail. I trapped 11 sparrows in those boxes. By 1980 I had 14 boxes on the same trail and trapped 20 sparrows in the boxes. Although this neighborhood trail is small compared to most bluebird trails, I believe the important thing is that there were five wren nests, one chickadee nest, and eight bluebird nests in an area that would have fledged only sparrows *had there been no sparrow control*. Thirty-eight bluebirds fledged during the 1980 season. I have had people tell me that I am fortunate to have bluebirds nest inside the city limits and must not have a sparrow problem. My good fortune is not just luck, but can be credited to a good trapping program. I have trapped sparrows in my yard year round for 12 years using the Trio sparrow traps plus the Havahart traps. This method is most effective when you keep live sparrow decoys in the traps at all times. This trapping has held the sparrow population low enough so that I can cope with them on the bluebird trail which is located throughout the neighborhood.

If you would like to receive plans for the nest box with built-in sparrow trap plus information on purchasing a nest box containing this trap, please send a stamped, self-addressed business envelope along with .25 to the following address:

Joe Huber
1720 Evergreen Court
Heath, OH 43055



HOLLYWOOD BLUEBIRDS

Merit and Marion Skaggs

1941

Not long after 20 March 1941, when the first waves of bluebirds came to Cleveland after being delayed by the St. Patrick's Day blizzard, a pair of bluebirds investigated our bluebird box.

Since the nestbox was only 20 feet from one of our kitchen windows, we could see the birds as they inspected their new home. On 31 March the female began carrying straw into the box. Nest building was leisurely for the first egg was not laid until 15 April. An additional egg appeared daily through the 19th and then incubation began.

After 13 days four of the five eggs hatched on 3 May. About three days later the infertile egg disappeared. We believe one of the adult bluebirds removed it in order to make room for the rapidly growing brood. By 13 May when the young birds were 10 days old, we banded the whole family with numbered U.S. government aluminum bands. On 20 May the young left the nest and the neighborhood.

We cleaned out the box and about a week later the banded female Eastern Bluebird appeared and examined it. After another day or two a male bird arrived. We, of course, thought it was the father bluebird, back from the duty of rearing the young to a point where they could take care of themselves. But, lo and behold, this dandy of the bluebird clan had no band! This meant that mother bluebird had a second mate.

After several days the female bluebird started her second nest.

Four days later, on 4 June, the first egg was laid. This clutch consisted of four eggs, and incubation began on 7 June. Thirteen days later, on 20 June, three eggs hatched. The fourth hatched about noon on the 21st.

The growth of the young proceeded in a normal manner except for the fact that when we banded the young on 2 July, several of them were found to have some sort of "leech" attached to a tarsus. We removed the "leeches" and banded the young birds as well as the adult male on the left leg so we could distinguish them from the first brood which had been banded on the right leg. On 9 July this brood left the nest.

Early on the morning of 5 August we were pleasantly surprised to have all four banded juveniles from the first brood return for a visit. They took turns sitting on the perch and the roof of the nesting box.

We eagerly awaited the return of the bluebirds the next year to see if any of "our" bluebirds would return.

1942

Early in April 1942, we were pleased to see a pair of bluebirds inspecting the bluebird box. Neither of the birds wore a band. They built a nest and late in April the egg laying began. A predator entered the box and dropped the two eggs that had been in the nest to the ground. The female may have been killed at the same time; at

any rate, we saw no female bluebird for some time so we cleaned out the nestbox.

The male stayed in the area and about 1 June a female bluebird began building another nest. Whether or not this female was the one that built the first nest is not known. Three eggs were laid and incubation began. During the next few days we were away from home. On our return we found the nest empty—cause unknown.

The male bluebird was frequently seen and about 5 July had secured another mate. We knew this was a different female because she wore a band. On 14, 15, and 16 July an egg was laid each day. One egg hatched on 29 July and the other two on 30 July. The young thrived and grew rapidly.

On 7 August the female was seen repeatedly fluttering just inside the entrance hole. Upon investigating we found that one of the nestlings was dead. Apparently the female had been trying to remove the dead bird from the box.

The following day we trapped both of the adults in the box by means of a long thread attached to a piece of wood which blocked the entrance hole. We banded the male and were pleased to find that the female was one of the first brood of young raised last year. She wore the band placed on her leg on 13 May 1941.

On 9 August the parents did not seem to be feeding the young. Investigation revealed that the two remaining nestlings were dead. Examination at the Cleveland Museum of Natural History revealed that the crops were full of insects, but, strangely, one contained a pebble and the other a piece of crockery about one-half inch in length. It is doubtful that these items caused their deaths. Except for a little

blood on the tarsi of the first dead nestling, there was no clue as to what had killed the brood.

A successful nesting season in 1941 when eight young were produced was followed by total failure in 1942 when the same box and three attempts produced no bluebird fledglings. Such are the trials and tribulations of bluebirds in Ohio. ■

3808 Daytona Drive
Youngstown, OH 44515

Editor's Note: This material was published originally in slightly altered form in *The Cleveland Bird Calendar*, a publication of the Kirtland Bird Club. The 1941 portion entitled "Hollywood Bluebirds" appeared in issue No. 4, 1941, while the material from 1942 was entitled "Bluebird Sequel" and was published in issue No. 3, 1942.

The reference to a type of "leech" found on the tarsi of nestlings was probably the larvae of the parasitic blowfly.

The authors recently provided the note that the nestings took place in South Euclid, a suburb of Cleveland, where there are now (1981) no bluebirds—but plenty of houses.



Bath for a Nestling Bluebird

Gary Truax

On a warm sunny Sunday afternoon I checked the bluebird box in the yard and noticed that four young were about to leave the nest. Little did I know that a storm was coming that would be one of the worst in forty years.

Late in the afternoon the sky turned gray and the wind started to blow. The weather radio said that there were three storm fronts located approximately on top of Interstate 70 east of Zanesville, Ohio, moving toward Cambridge. The storms were so strong and so close together that the lightning flashed at one second intervals all night long. The wind was strong and the rain heavy which led to severe flooding in the area.

On the Friday after the storm I was working in the yard and decided to see if the nestlings had left the box. When I opened the box there were three young inside, but two of them were dead and all three were covered with fecal matter.

I believe that what happened was that the adult bluebirds stopped carrying out the fecal matter which became packed down in the nesting material. This in turn slowed the escape of water from inside the box which resulted in the young birds becoming covered with fecal matter and water. Their down and feathers became compacted which caused the young birds to suffer from exposure to the cold and, eventually, to die of hypothermia.

I was uncertain what course I should take with the survivor, so I contacted Robert Orthwein (a member of NABS). We concluded that we should do *something*, so I decided to try giving the surviving

bluebird a bath.

The equipment I used was a plastic gallon jug cut down to serve as a bathtub, cotton gloves, absorbent cloth and lukewarm water.

First I gathered some dry grass. I then pulled the metal post on which the box was mounted out of the ground and dumped the contents into the cloth. After some fighting the little bluebird fell onto the cloth and immediately ran into some deep grass. From the time I started to tilt the box until it was put back after the bath, the nestling screamed continuously. Suddenly, the two adults began diving at me trying their best to make me leave their baby alone.

Finally I subdued the little thing, put him into the bathtub, and started to massage the fecal matter gently off his body and wings. I was unable to do much with the fecal matter on his head, so I dried him as well as I could dry a screaming, wiggling little ball of feathers, while at the same time I tried to evade the parents who were swooping at my head. I put the young bird back into the box on top of the new dry grass.

After returning to my house I noticed that the adult bluebirds were feeding the nestling. Later that afternoon I checked the box. The young bird appeared to be drying; it was not shivering as badly as when I first checked it.

That bluebird may not remember our encounter, but I will never forget the joy I felt the next day when I discovered that the box was empty. ■

Route #1
Summerfield, OH 43788

PLANTINGS FOR BLUEBIRDS AND OTHER WILDLIFE

Flowering Dogwood—A Tree For All Seasons

George N. Grant

Although the winter in our area was generally mild with little total snow and few major storms, the month of January was one of record sub-zero weather. It took its toll as many plantings that were marginal or even considered hardy for this area suffered severe damage. Many died back to the snow level.

The featured wildlife planting this time is the native Flowering Dogwood, considered by many to be our most beautiful small ornamental tree with its cross-shaped flowers, red berries, red fall coloring and attractive winter outline.

Here in central New York I have yet to see a dogwood in the wild, but it is a valuable part of the understory of deciduous woods farther south. Attempts to grow it in Canada or northern parts of the United States are usually not successful for the flower buds which set the previous fall are frequently winterkilled unless they are protected from winter winds.

I have seen Flowering Dogwoods in this area, partially protected by stands of evergreens, that bloomed and then bore heavy crops of berries in the fall; however, I do not expect to witness that this year.



Flowering Dogwood
(*Cornus florida*)

Native—Massachusetts to Florida and west to Ontario and Texas.

Hardiness—Zone 5. Growth rate, medium in early years with proper horticultural care.

Habit—15 to 30 foot small low-branched deciduous tree with strong horizontal lines which may result in spread equal to height with flat top.

Flowers—Appearing in April or May, large (2 to 4 inches), dramatic white (pink to red in horticultural varieties) with 4 "petals," each notched, lasting for 10 to 14 days and very showy.

Fruit—Bright scarlet drupe about 3/5 of an inch long borne in clusters of 3 or more, ripening in September and lasting until December if not devoured by birds.

Habitat—Prefers rich, well-drained, moist soils generally in the shade of other species.

Landscaping Value—Long considered one of the outstanding small flowering trees within its range as either a specimen or border planting. Excellent flowers, summer and fall foliage, attractive fruits and winter habit.

Culture—Transplant with soil ball when dormant or balled and burlapped. For best growth provide well-drained, moist, fairly acid soil high in organic matter. In northern fringes of the U.S. and southern Canada plant in protected area.

Undesirable Traits—None, but flower buds are formed in the fall and are easily killed by excessive cold resulting in no flowers or fruit.

Propagation—Seeds from same area, cuttings with specialized conditions, and small wild plants under dormant conditions.

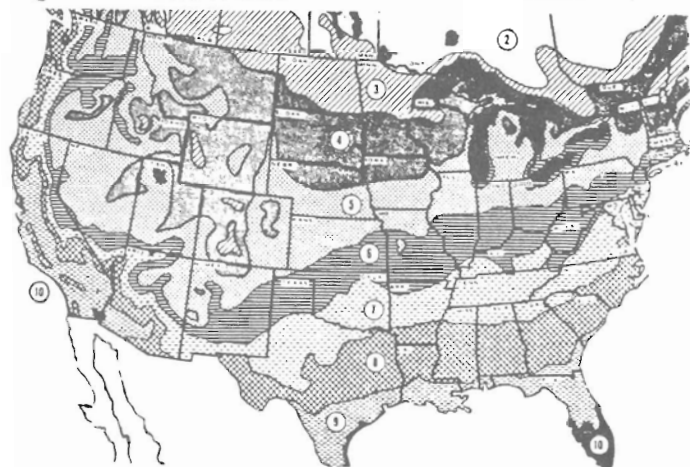
Similar or Related Species—Because of its popularity, many cultivars have been developed with variations.

Use by Wildlife—Over 90 species of birds are listed as utilizing the berries including EASTERN BLUEBIRD, Cedar Waxwing, American Robin, thrushes, Brown Thrasher, Gray Catbird, Common Flicker, gamebirds, and many others.

Cover and Nesting—Readily used by robins, vireos and occasionally other species for nesting and also provides a fair amount of cover.

Special Uses—Because of small size has little use commercially but its extremely hard wood is used to make shuttles for textile industry and is sometimes used for golf club heads. ■

RD #3, Box 153B
Canastota, NY 13032



ZONE 1	BELOW -50°
ZONE 2	-50° TO -40°
ZONE 3	-40° TO -30°
ZONE 4	-30° TO -20°
ZONE 5	-20° TO -10°
ZONE 6	-10° TO 0°
ZONE 7	0° TO 10°
ZONE 8	10° TO 20°
ZONE 9	20° TO 30°
ZONE 10	30° TO 40°

Figure 1. Hardiness Zone for the United States and southern Canada. When no zones are mentioned with the plant description, plants are hardy anywhere. If a zone is given, it indicates that plants are hardy within the zone and in all areas south of it.

This hardiness map was developed by the Agricultural Research Service of the U.S. Dept. of Agriculture. The hardiness zones 1-10 are based on the average annual minimum temperature for each zone and divide the United States and Canada into areas where

specific plants are winter hardy. Many factors such as altitude, length of growing season, exposure, moisture, soil types, etc., can create variations within zones, but adhering to your specific zone will generally give you the best results.

BLUEBIRD

William Leon Dawson

The following material is taken from *The Birds of Ohio: a Complete Scientific and Popular Description of the 320 Species of Birds Found in the State* published by The Wheaton Publishing Company in 1903. Our thanks to Arlene Kunkel who passed along the chapter pertaining to bluebirds. Material of this type can provide a valuable historical perspective. Mr. Will Smithkons, with his more than 50 box turn-of-the-century bluebird trail, should be of interest to all bluebirders.

How the waiting countryside thrills with joy when Bluebird brings us the first word of returning spring. The snow may still linger in patches and the hoarfrost be only just making out of sight that rare day when the herald presses northward and scatters the tidings far and wide. Spring is in the air and spring, thenceforth, is in our hearts. The cruel north wind may sweep down again and all the ugly signs of winter return, but Bluebird has kindled in our hearts the fires of an inextinguishable confidence, and we know that the master word of exorcism has been spoken. Surely there is nothing in nature more heartening than the resolute courage and sublime good cheer of this dauntless bird. Reflecting heaven from his back and the ground from his breast, he floats between sky and earth like the winged voice of Hope. Or else, "shifting his light load of song from post to post along the cheerless fence," he pours out sincerest gratitude for even the meager goods of life, and counts it joy enough to live.

Truth to tell, Bluebird does make sad mistakes sometimes. He trusts too well some tricky

Zephyr of the South, who whispers not of what he knows, but what he hopes, and is cruelly deceived. But Spring does come, and if her most impetuous herald dies in the performance of his duty, we love and honor him most because his task was hardest.

The year 1895 marked a sad chapter in Bluebird's experience, and proved to be a turning point in the history of his race. That spring an unusually severe cold wave of long duration swept over the Middle and Gulf states. The cold wrought fearful havoc to all bird life, but the blow seemed to fall most heavily upon the Bluebirds. Their ranks were not merely decimated; they were almost exterminated. Observers in Ohio saw only single birds where before they had seen scores and hundreds....It is very gratifying, however, to note that their numbers are materially increasing of late. In some localities they appear to have almost regained their former status.

It goes without saying that from that dreadful winter only the fittest survived. Evidence is not lacking to show that the Bluebird of today is hardier than the Bluebird of ten years ago. In Lorain County, for instance, there were no authentic records of Bluebirds wintering until the season of '98-'99. Then and every season since a few have been seen. If this be a correct inference, then the massacre of '95 will not have been without its influence for good in preparing the species against similar and more severe attacks in the future....

These gentle spirits are, however, best not aroused by an outsider. In securing his personal rights or in defending his home, Bluebird is always brave and sometimes pugnacious to a degree. Indeed it is to be feared that when it comes to a question of property rights, he is not always kind. The annals of bird-lore are full of accounts of spirited encounters between luckless Wrens, Martins, Woodpeckers, etc., and Bluebird. Here is one of them by Dr. Howard Jones, of Circleville: "Some years ago I placed a bird box upon the house-top, which for a few seasons was occupied by a pair of Bluebirds. One spring they failed to appear at the usual time and the box was taken by a pair of Martins. The old nest was carried out and the newcomers were thoroughly settled in their quarters when the Bluebirds returned (probably the same pair that had formerly occupied the box), and at once commenced tearing out the intruder's nest. But they were soon discovered and a pitched battle ensued, the Bluebirds retiring as if defeated. This procedure was repeated several mornings and at intervals during the days. When, early one morning, being awakened by the incessant screams of the Martins, I hastened to the yard to see what I supposed was the final encounter; but the affray was over before I arrived. My father, however, was there holding a female Martin in his hand, he having witnessed the whole affair. After much scolding and sparring one of the Bluebirds clinched with the Martin, and both birds rolled together from the house-top to the pavement below, where, in deadly embrace, they were captured; but the Bluebird, still strong and active, slipped away. In all these en-

agements the male Martin seemed content to encourage his mate by his vociferous screams, while both Bluebirds fought with equal vigor."

In a fair encounter the Bluebird is more than a match for the always execrable English Sparrow; but no bird can endure the mobbing which the hoodlums resort to; and as a result the Bluebirds have to surrender the choicest places to the interlopers....

A farm near North Amherst in Lorain County contains, besides several fields and pastures and an ideal bit of woodland, two young orchards and a small vineyard. Throughout these last, Mr. Will Smithkons, the son of the owner, has distributed upwards of fifty Bluebird boxes, each composed of a section of a hollow limb, closed with a board at top and bottom, and provided with a neat augur-hole in the side. The boxes are made fast to the trees or lodged at considerable intervals along the intersecting fences. Mr. Smithkons finds that more than half of the boxes are occupied each season; and he counts the birds of inestimable advantage in helping to save the grapes and apples from the ravages of worms. In two instances Robins accepted the partial shelter afforded by the boxes and nested in the crotch of the tree immediately under the Bluebirds....

Doubtless Bluebird's song owes somewhat of the high estimation in which it is held to the fact that it sounds forth at a time when there are few rivals, and the aspect of nature contrasts somewhat sternly with its good cheer. Be that as it may, his soulful warbling notes will always be regarded as something half sacred by those who understand....

In autumn Bluebird lingers late, hawking at insects in some sunny corner, or sampling the winter fruits which others are to gather. A favorite tidbit of this season is the berry of the common ivy, which the bird procures by fluttering before the purple clusters. When the season advances the birds retire with evident reluctance. Passing slowly overhead in little pilgrim companies they call down to you as they fly, Cheery—Cheery, Dearie, half mournfully indeed, but still with tender promise of another meeting at a fairer time. ■



Bluebirds of Meaford Tank Range

Every year the Eastern Bluebird continues to return to the Meaford, Ontario, area.

For the past 15 years I have been making front entrance nesting boxes for bluebirds. The Meaford Tank Range consists of 18,000 acres of farm land on the south shore of Georgian Bay which was expropriated by the Department of National Defence during the Second World War. In a concentrated area of the Range, I have a bluebird trail of approximately 40 boxes.

The nest boxes are located on utility poles and security fence posts and, despite competition from Tree Swallows and House Wrens, I have had reasonable success. Field mice and flying squirrels occasionally take over a box, but the raccoons seem to be the worst predator.

Last year my first observation of bluebirds was 6 April when patches of snow still remained. Later in the month a severe frost had adverse effects on the initial broods.

The Tank Range is again fairly active so the young bluebirds are raised to the sound of machine gun and tank fire, as well as the noises of the helicopter transports landing and taking off in the area.

The trail has been a satisfying hobby and we *do* see the bluebird population increasing in the Meaford countryside. The sight of the Eastern Bluebird is an especially happy experience for people who are seeing them for the first time. ■

John C. Clarke

Box 77
Meaford, Ontario
Canada NOH 1 Y0

Diary of a Quincy, Illinois, Bluebird Trail, 1972-1978

Greg Rakers

The Musselman Audubon Society of Quincy, Illinois, was founded in 1971. One of its first projects was to revitalize the old bluebird routes of Dr. T. E. Musselman. Few of his boxes were found so new ones were made and new trails developed. The Rakers' bluebird trail began as a family project. It was used by Greg as a Science Fair project in 1975-76 and was entered in the State Science Fair. The portion here published represents only a part of his material.

1972

At the beginning of February 1972, our family received a map of Adams County Illinois. On that same day we covered northern Adams County, looking for old bluebird boxes put out by T.E. Musselman many years ago, but the only boxes we found were old 4-H boxes. We also looked for good nesting areas in which to put out new boxes. Days later we started to make new bluebird boxes. We painted them corktone brown. In this area boxes should be out by 1 March; bluebirds return and usually begin nesting activity in mid-March.

Our route consisted of 44 boxes:

- 7 were the 4-H group's boxes on North 36th Street;
- 5 were the 4-H group's near St. Francis Hills, to which we added 1 box;
- 15 were placed in orchards;
- 16 were put out as a new route north of Quincy.

The 36th Street section was not used by bluebirds. House Sparrows dominated because these boxes were close to farms and feedlots. We removed most of these boxes during the 1972 nesting season.

Most of the boxes near St. Francis Hills were not used. A brood of wrens was hatched but did not fledge.

The boxes in the orchards were used by a couple of wren pairs and there was one nest of bluebirds, but all were deserted after spring spraying. Near one box we observed a Brown Thrasher's nest which was also deserted after the spraying. We had problems in this area with boxes being stolen.

The new route north of Quincy was more productive. On 30 March we found the first two bluebird nests. By 16 April there were 16 bluebird eggs in four boxes. Our first predator, a House Sparrow, threw all the bluebird nestlings to the ground and took over the box. We took the box down and replaced it with one on a metal pole. Between 11 and 15 May, 10 eggs and 5 young were lost when the boxes were destroyed by predators. We put Nixolite (a needle-type guard used to keep pigeons from landing on roofs) around the boxes. This was supposed to keep four-legged predators from reaching the entrance hole, though it would not stop sparrows, wrens and snakes. To help stop four-legged predators and snakes we found that we could coat the metal pole with automobile grease. By 19 July the first brood in most boxes had fledged and the second brood had begun.

By 13 August all boxes were empty and our first bluebird nesting year was over.

Totals for 1972:

- Fledged: 68 (possibly 73) bluebirds
- Lost: 30 bluebird eggs
- 18 bluebird young

1973

On 3 March we were surprised to see a male and female bluebird in a tree in our own backyard. We set up our route on 4-11 March:

- 1 box in our yard;
- 32 boxes on the route north of Quincy;
- 7 boxes in the St. Francis Hills and North Bottoms area;
- 5 boxes on the road to Camp Saukenauk;
- 12 boxes built by the Boy Scouts of St. Dominic's and put out east of Quincy on 6 April

From the box in our yard eight bluebirds fledged in two broods. We were able to control House Sparrows by putting a sparrow trap in our garden.

The route north of Quincy was again the most productive. On 6 April we found the first two bluebird nests. Most of the other boxes had sparrows trying to nest. By 24 April the sparrows had started nesting; we had also found 15 bluebird eggs, our first for 1973. By 14 May four boxes had nestlings. On 20 May we found a nest destroyed by predators. House Sparrows had thrown all six of the young onto the ground and had already made a nest in the box. Five bluebird young fledged on 25 May. We continued to dislodge sparrows which were still trying to take over the route. In one box, unidentified predators tore up the nest three times. Twice the eggs in this nest were white and adult bluebird feathers were on the ground; once the nest was on top of the eggs. This pair of bluebirds settled for the box down the road and successfully fledged three young from three white eggs. On this section of our route 46 bluebirds fledged, 17 eggs were lost, and 6 nestlings were killed. Six House Wrens fledged, and we destroyed 263 House Sparrow eggs.

The boxes near St. Francis Hills were not used; two boxes in that area were stolen.

All of the boxes near Camp Saukenauk were used, especially during the early part of the nesting season. Two clutches of bluebird eggs were lost, but 12 bluebirds and 4 chickadees fledged.

The Boy Scout boxes were directly south of our North Quincy route. In this area, 24 bluebirds and 24 wrens fledged, 7 bluebird and 11 wren eggs were lost, and we destroyed 34 House Sparrow eggs.

Totals for 1973:

- Fledged: 90 bluebirds
- 30 House Wrens
- 6 chickadees
- Lost: 27 bluebird eggs
- 6 bluebird young
- 11 wren eggs
- Destroyed: 310 House Sparrow eggs

1974

We set up our route on 17 February. By this date the bluebirds were at the box in our yard every day. We changed our route again this year and took some of the unused boxes down. Our route consisted of the following:

- 1 box in our yard;
- 33 boxes on the routes north and east of Quincy. These were boxes from the North Quincy and Scout routes of 1973;
- 8 boxes on the road to Saukenauk.

We made and set out eight deeper boxes, but only one was used—by a House Sparrow. The others remained empty except for wasps and ants.

We found our first eggs on 16 April and, from these, our first young on 30 April.

We had some new experiences this year. We had a lot of rain in late May. In one nest of bluebirds, three babies drowned because the nest was full of water. Two young were still alive when we discovered them. They were about 16 days old. These two had no feathers left on their breasts but were still well and lively. We put in some dry grass while the adults dive-bombed us. We hoped they fledged. We also had fewer pairs nesting on our route this year.

We had trouble with a raccoon, apparently older and larger than usual because it reached through the coon guard and got four of the five babies. We then put Nixolite around the box. This seemed to help as two other broods fledged successfully from this box.

Totals for 1974:

Fledged: 66 bluebirds
 21 House Wrens
Lost: 4 bluebird eggs
 12 bluebird young
 3 chickadee eggs
Destroyed: 139 sparrow eggs

1975

Bluebirds arrived in our yard in late February, about the time of a heavy snowstorm, and promptly left for about a month. We next saw them 9 April. Our route was set up on 2 and 16 March as follows:

1 box in our yard;
28 boxes on the routes north and east of Quincy;
6 boxes on the road to Saukenauk.

We experimented with deep boxes by setting them up next to regular boxes to see which the bluebirds would choose. In one case the regular box on a metal pole was chosen while, in another, neither box was used. One pair used a deep box and fledged eight young in two broods. This was in a location where we had had problems with sparrows in previous years.

We found the first nest on 9 April and the first eggs on 28 April.

The weather noticeably affected nesting this year. The first brood was later due to the cooler temperatures in February and March (Table 1). Four babies drowned during a heavy rain in late May. These were in the same box that the babies drowned in last year.

One new experience this year was our having a box destroyed by a shotgun blast. This was the first predation by a human that we were aware of (other than stolen boxes).

We didn't seem to have much trouble with predators except for a cat and a House Sparrow. The cat caught and killed a female bluebird while she was building her nest, and the sparrow broke the first egg the pair of bluebirds in our yard laid, but let the other four eggs alone.

There was another interesting statistic this year: only one bluebird egg did not hatch during this nesting season.

Totals for 1975:

Fledged: 55 bluebirds
 41 wrens
Lost: 5 bluebird eggs
 4 bluebird young
Destroyed: 72 sparrow eggs

1976

On 28 February we set up our route. The boxes were cleaned and some were moved 3.22 km to the east. We saw two male bluebirds at boxes; one box had a completed bluebird nest. House Sparrows had already started stuffing the boxes. The route was as follows:

2 boxes in our yard (1 for wrens);
26 boxes on the routes north and east of Quincy;
6 boxes on the road to Saukenauk.

We had some new experiences this year. We found seven eggs in two nests on

30 March—the earliest we had ever seen eggs. The warm weather in February may have been the cause.

The box in our yard seemed to have been taken over by House Sparrows. They drove off the bluebird pair twice and the last time destroyed a completed nest. The bluebirds returned in July and successfully raised three young.

A completed nest was seen on 16 July in one of the Saukenauk boxes, but we did not follow up on it.

Our only predator problem seemed to be House Sparrows. In the deep box from which eight babies fledged in two broods last year, a sparrow nest was built over a dead male bluebird that had been pecked in the head. This box plus another deep box had sparrows constantly rebuilding. In another box, sparrows were a constant threat: after one successful bluebird brood they tore up one nest with four eggs and two other completed nests. The bluebirds finally left. Deep boxes did not have much bearing on bluebird nesting success or failure.

Totals for 1976 (Quincy route):

Fledged: 44 bluebirds
10 wrens
Lost: 5 bluebird eggs
Destroyed: 87 sparrow eggs
14 young sparrows

1977

Our route was set up on 13 March after a colder than usual winter with more snow than in previous years. The route was as follows:

2 boxes in our yard (1 for wrens);
25 boxes on the routes north and east of Quincy;
4 boxes on the road to Saukenauk.

In April, a male bluebird appeared in our yard. He sang and called for two days, but no female came and sparrows drove him off. He did not return.

Our first bluebird eggs were found on 17 April. This was the *only* box known to be successful during this season; three broods were produced. One other bluebird pair laid four eggs that seemed to have fledged 22 days later, although a sparrow had taken over the box. Judging by the number of droppings that filtered through and the lack of damage to the nest, it is possible the bluebirds had fledged.

The nests were not checked as often during this season as it was more expensive to run the route and there was not much bluebird activity.

Totals for 1977 (from two pairs on the regular route):

Fledged: 15 bluebirds
Lost: 0 bluebird eggs to predators
8 wren eggs
Destroyed: 55 sparrow eggs
22 young sparrows

1978

The route was almost identical to the 1977 route:

2 boxes in our yard;
24 boxes on the routes north and east of Quincy;
4 boxes on the road to Saukenauk.

After another hard winter the roads were almost impassable. We were able to check the boxes finally in early June. There was no evidence of bluebird activity and we did not get out to check the route during the summer. In the fall we cleaned the boxes; only one had a possible bluebird nest. We removed sparrows from 10 boxes, 8 boxes were not used by any species, 2 were not checked, 4 were either missing or had been taken down.

At Saukenauk there was no evidence of bluebirds either. Wrens took over the boxes usually used by bluebirds; House Sparrows used the other two. ■

4300 Cheshire Court
Quincy, IL 62301

Table 1. Average February and March Temperatures in Relation to First Bluebird Egg Date.

1972

First egg laid: 7 April

Temperature	February	High 38°	Low 21°
Average	March	High 51°	Low 31°
Average for Month	February	30°	March 40°

1973

First egg laid: 17 April

Temperature	February	High 41°	Low 25°
Average	March	High 57°	Low 39°
Average for Month	February	33°	March 48°

1974

First egg laid: 10 April

Temperature	February	High 48°	Low 29°
Average	March	High 56°	Low 31°
Average for Month	February	38°	March 47°

1975

First egg laid: 18 April

Temperature	February	High 36°	Low 21°
Average	March	High 46°	Low 27°
Average for Month	February	29°	March 37°

1976

First egg laid: 26 March

Temperature	February	High 50°	Low 31°
Average	March	High 58°	Low 36°
Average for Month	February	41°	March 47°

1977

First egg laid: 17 April

Temperature	February	High 42°	Low 21°
Average	March	High 59°	Low 35°
Average for Month	February	31.5°	March 47°

1978

First egg laid: None as of 1 June

Temperature	February	High 27°	Low 11°
Average	March	High 44°	Low 28°
Average for Month	February	19°	March 36°

Ring the Bell for Bluebirds

George A. Dorsey

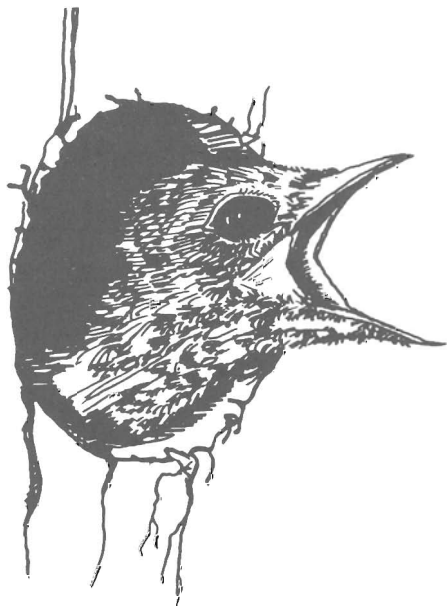
It is quite a disappointment to have House Sparrows occupy a bird box that has been erected for bluebirds. I have seen these birds view a nesting box with suspicion—until a pair of bluebirds began building a nest in it. At this point the House Sparrows would decide that the box was not a trap and would then proceed to annoy the bluebirds until they gave up leaving the box to the triumphant intruders.

One possible solution to this problem is to build a nesting box with a false back in which an electric bell or buzzer is installed. Wires may be run from the box to a dwelling where dry cells or a doorbell transformer can be locat-

ed and activated with a push-button switch.

For best results the box must be watched frequently. When a House Sparrow enters, push the button thereby ringing the bell. This will cause the interlopers to leave quickly! Where small children may be present, the push-button should be replaced by a lock-and-key switch which may be secured through mail order electronics supply dealers. This would prevent a mischievous child from ringing the bell whenever bluebirds or other desirable species entered the box. ■

Darlington School
Rome, GA 30161



Correspondence with Authors

When writing to the author of an article that has appeared in *Sialia* requesting a reprint or posing an inquiry, please be thoughtful enough to include a stamped, self-addressed business envelope. Most authors are willing to clarify points or answer questions, but postage costs rapidly become a burden.

QUESTION CORNER

Lawrence Zeleny

Our yard has been sprayed by prior owners; will it still be harmful to bluebirds?

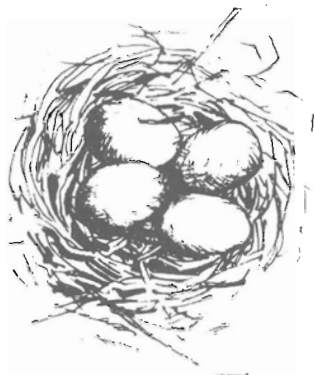
**Cecelia Doane
St. Petersburg, Florida**

This, of course, depends on the kind of spray used, its concentration, and how recently it was applied. Long lasting poisons such as DDT, chlordane, and lead or mercury compounds could make the property inhospitable to birds for years. If you find various kinds of insects thriving on the ground and in the soil you probably have nothing to worry about.

We have three wren houses. Will the wrens move out if bluebirds nest in the area?

**Ruth Koch
Dolton, Illinois**

No, but the opposite may be true. House Wrens are delightful and useful little birds in most respects, but they do have some most undelightful habits. They will often destroy the eggs and nestlings of bluebirds and other cavity-nesting birds. They also tend to monopolize all of the nesting boxes in their vicinity by filling them full of twigs. Wrens prefer to nest close to trees, shrubbery, and underbrush, while bluebirds prefer the more open areas.



I live near the ocean. Will the presence of salt water deter bluebirds from nesting in the area?

**Carol Walters
Virginia Beach, Virginia**

Not if there is a supply of fresh water nearby for drinking and bathing. However, the nesting boxes should be located back as far as possible from the ocean shore.

How can I make a bluebird box sparrow-proof?

**Jean Greenwade
Milford, Nebraska**

I wish I knew! This is one of the most important unsolved problems in the bluebird world. We are working on it but, as yet, have no good answer. Placing the boxes as far as possible from buildings and places where animals are fed helps somewhat in reducing the House Sparrow problem. Mounting the boxes only three feet from the ground also helps a little. If sparrows move in before the bluebirds are ready to nest, close the entrance hole temporarily. A corncob may be used to do this.

OUR WESTERN BLUEBIRD FAMILY

William N. Davis

While living in Colorado Springs, Colorado, we had some old pieces of lumber left from our house construction, so my girls asked me to build a bird house. I put some wood together and came up with something that looked roughly like a bird box. It had a little porch and a slot about two inches by four inches for an entrance. It might have been appropriate for wrens or sparrows. I hung it from the clothesline pole in the back yard, but even the sparrows didn't use it.

Then one spring morning we noticed two beautiful birds taking a look at the house. I didn't know what they were, so we hastily found a bird book and identified them as a male and female Western Bluebird. It was fun to watch them fly in and out of the box. Finally, they decided to take up residence.

We watched as they began to take in nesting material; it got to the point that they would continue to build even if I was moving in the yard. This was a residential area, a new one at that, and there was no cover; in fact, the largest tree in the neighborhood was about as tall as a man.

After several weeks we knew that there were baby birds in the nest. The parents would take turns bringing in "bugs" and other tasty morsels. From our kitchen we could hear the little ones chirping.

One day we noticed that the adult bluebirds had not been around the nest for a while. I happened to be mowing the yard and saw six nestlings on the ground

beneath the house. The House Sparrows had actually pushed them out of the box. I called for help and my wife brought a shoe box. I put some grass clippings in the box and in it put the five birds that were still alive. We immediately placed them under a desk lamp in our store room; they seemed to be uninjured.

Since we had no idea what to feed them, I went to the supermarket and purchased a box of puppy chow. We soaked it and the babies loved it. Of course we had to feed them every three hours, even during the night, since they would all awaken and begin to chirp until they were satisfied. Our daughters helped, too, by supplying a doll baby bottle so we could give our new arrivals water after the dog food. I even started buying fishing worms so they could get more protein in their diet. My wife and daughters nearly refused to continue the feedings when I told them they would have to feed our birds worms.

The bluebirds began to grow. We put them in a larger box and periodically let them hop around in the yard. We could tell by their feathers at this time that we had three males and two females.

The time had come for them to learn to fly. My wife said that she absolutely refused to teach them to fly, so we searched for another solution to the problem. I called the Colorado Springs Zoo, and they said that they would be glad to take the fledglings and place them in the aviary until they could fly. Then they would release them.

Needless to say, it was a sad day when my wife, my daughters, and I took our baby bluebirds to the zoo. We were assured that the little ones would do well—to ease the pain they let us go through the zoo free.

We gradually forgot about the birds until spring. Then we watched each day hoping for more visitors, but no bluebirds came. We had almost given up hope when, in late spring, they arrived. Two of the most iridescent Western Bluebirds we had ever seen set up housekeeping.

I am sure that experts would say that they were just two birds passing by, but we knew better. One of *our* babies had returned with a mate. ■

122 Sycamore Drive
Prattville, AL 36067

Editor's Note: We are glad that Lt. Col. Davis' story had a happy ending. NABS continues to encourage its members who find nestlings needing care to locate professionals, who have the experience as well as the necessary state and federal permits to care for such birds. Refer to *Sialia* 2:62.

Bluebirds on the Mountain

Three years ago someone gave me a bluebird box for Christmas. Although I didn't realize it at the time, that house was the beginning of a bluebird trail.

My husband and I have a summer cottage in the Cumberland Mountains at a small resort about 80 acres in size. I had never seen a bluebird in that area, but I put up the box in the early spring anyway and bluebirds nested twice. The following year I bought and begged another ten boxes and more bluebirds fledged.

Mr. "Red" Berry, the security officer for the grounds, became interested in the birds and made more boxes during the winter months. There are some meadows on the perimeter of the area as well as parks throughout the grounds. This was where the boxes were placed. During the 1980 season we had a total of 27 numbered boxes from which 122 baby birds fledged. A few of the boxes had chickadee nests. All during the

nesting season Mr. Berry checked the boxes every few days, cleaned out the used nests, and made necessary repairs. He has really done a great deal of work to make the trail a success.

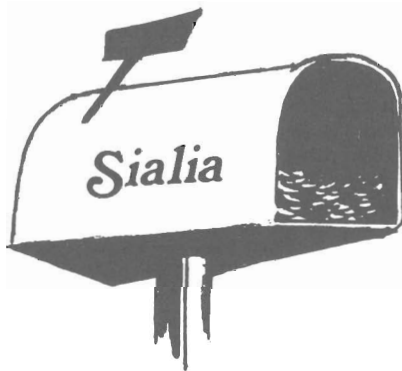
Although some of the birds do stay in the mountains during the winter (I have seen them in January), they have not used either of the two roosting boxes that I put up. We have lots of dogwood, sumac, and other berry-producing plants so I guess they could survive a winter. I also put out an experimental nesting box with a hardware cloth top, but the bluebirds don't seem to like it.

"Red" Berry collected lumber and has built more boxes for the 1981 nesting season. This means that the summer residents can look forward to seeing even more bluebirds at their cottages this summer. ■

Margaret A. Dortch
4406 Harding Place
Nashville, TN 37205

BLUEBIRD EXPRESS

SIALIA welcomes the correspondence of its membership. Bluebird Express should become a forum for all who are interested in communicating their ideas and actions concerning bluebird conservation. We will attempt to publish a wide range of views in a responsible manner. Keep your letters coming!



Dear Editor:

We enjoyed and appreciated the NABS slide show. We showed the slides here in Centreville to around 200 people. This included 48 at the Field Hospital on October 16th that were adult bluebird enthusiasts from our community. The program consisted of the slide presentation, a discussion of bluebird habits, eggs, fledglings, and care of the nests. We then had a presentation on bluebird house construction by two of NABS' charter members, "Bubba" Robinson and Bob Mitcheltree.

Richard J. Field, Jr., M.D.
Centreville, Mississippi

Dear Richard Field:

We're glad the slide show was helpful. The Society depends on its members to spread the bluebird word locally. It sounds as though you, "Bubba," and Bob are doing a fine job.

Dear Editor:

Since the publication of the enclosed article in the Staunton News-Leader, Sunday, March 8, 1981, members of the Augusta Bird Club have assembled most of our new batch of boxes. We have heard from more than

30 people who want to help by building more boxes and joining our trail monitoring. As a result, I am sure we will have a much more complete report from this area this year. Calls came in from as far west as Monterey in Highland County and as far east as Charlottesville.

John F. Kiser
Mt. Sidney, Virginia

Dear John Kiser:

We'll look forward to your report after the breeding season. Good publicity can certainly make a difference!

Dear Editor:

As a new member I am enjoying each issue of *Sialia*. I belong to many garden clubs and other societies. Yours tops my list. Hope someday to be able to join you and other members at the annual meeting.

I first became interested in bluebirds in 1974. We spend a great deal of time at our farm in southwestern Michigan which has over 200 acres with many good spots for boxes. We spotted our first pair of bluebirds in the spring of 1974 in the orchard, so I asked the Illinois Audubon Society for instructions.

We were rewarded with nestings that year with four bluebirds fledging. That was repeated in 1975, '76, and '77.

Trouble began in 1978 when sparrows tried to occupy the box. Since

that year I have added boxes to our trail, but no nesting has taken place.

The last two years my wife and I have spotted only two birds—and these were three to eight miles from our boxes.

I am very interested in the design of the bluebird box with the screened open-top to reduce sparrow problems.

We have plans for more boxes for next spring—with continued hope that bluebirds will return to the farm in Michigan.

Dave Knoebber
LaGrange, Illinois

Dear Dave Knoebber:

Thanks for your enthusiastic support of NABS. Your problem with House Sparrows is a widespread one and is a matter of high priority for our research. If you should decide to erect some of the experimental open-top boxes, do keep accurate records. We need more data on this box style before determining if or when it is a reliable way to beat those sparrows.

Dear Editor:

I have about 460 bluebird nesting boxes in position within 70 miles of Toronto. In 1980 we had 100 good nestings. It was an eventful year and also a time of goodwill and good publicity.

In the fall I began to acquire new lands and get permission to cut cedar trees. About 1,400 acres of permanent pasture were obtained and 112 posts were dug in. We are now putting galvanized steel sheet around the posts in preparation for the erection of the boxes in March. The steel came free from a big company in Hamilton and I have enough left on the roll for another 300 sheets. A hardware store in Orangeville rolls the metal for me and charges ten cents for each one. If I had to buy the stuff the cost would be \$3.25 per wrap. Thus, about \$1,500 was saved by writing a begging letter.

L. A. Smith
Toronto, Ontario

Dear L. A. Smith:

Your energy on behalf of bluebirds seems to be helping to reestablish the population in the Toronto area. Maybe your "begging letter" success will inspire other bluebirders to try it, too.

Dear Editor:

On March 23 I had four bluebirds in my back yard checking out the nesting boxes; on March 27 I saw 16 in the general area.

Within a three year period I have built 117 bluebird boxes, 18 wren boxes, and 13 bird feeders. These were all built in my free time.

On March 21 I went to the Indian Springs Wildlife Management area where the annual "shrub packet" sale was taking place. This is a cooperative project of the Maryland Wildlife Administration and the Maryland Forest Service. The packet consists of 8-12 inch seedlings: 2 Flowering Dogwoods, 2 Autumn Olives, 2 Scotch Pines, and 2 honeysuckle (bush type) at a cost of \$2.00. I bought several packets to help alleviate the growing loss of wildlife habitat. The packets have been planted and the seedlings are doing fine.

Kenneth E. Angle
Rohrersville, Maryland

Dear Kenneth Angle:

Many bluebirders build boxes, but you not only help nesting bluebirds, you also build feeders and improve wildlife habitat. What a marvelous combination!



BLUEBIRD TALES

Mary D. Janetatos

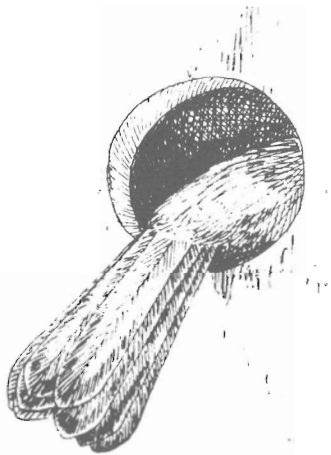
To: All North Americans who *don't* live in Ohio.

From: A new fan of the wonderful world of Ohio!

I've gradually discovered in the last few years that no matter what you want to find, IT'S IN OHIO, but you must *go there* to find out about it. My sister and brother-in-law, **Ann** and **Doug Osgood** live in Dayton, and each visit with them reveals something new about the state. A small contingent of NABS members live in Ohio including **Dick Tuttle**, current Board member and Education Chairman. Ohio's biggest news to me was revealed when I visited the Holden Arboretum recently. (Holden is a three thousand acre privately owned preserve containing an 85 box bluebird trail.) **Larry Zeleny** had been invited to speak there, and the Arboretum kindly accepted my offer to tell their audience about the North American Bluebird Society.

Jean Eakin and **Betsy Walker** are the individuals responsible for establishing and maintaining the trail over the last 12-14 years. Jean laid the groundwork and was soon joined by Betsy. Between them they have collected the nestboxes, erected them, and attracted the volunteers who help with monitoring and record keeping. These diligent helpers even change the "bedclothes" of the baby bluebirds!

For some strange reason the number one problem on the Arboretum trail is the parasitic blowfly. The larvae infect the Arboretum bluebird nests so heavily that a very high percentage of their nestlings would be lost if drastic steps were not taken. So, the steps they *do* take are to remove all the original nesting material and replace it with new clean dry material such as dry grass or paper toweling. The substitute nests are invariably accepted



by the parents which gives the nestlings a chance to survive to healthy adulthood. The technical aspects of this research are being written under the auspices of the Cleveland Museum of Natural History.

Bluebird Stamp

On a less esoteric subject, but one fraught with philately, efforts to create a postage stamp honoring bluebirds are going on nationwide. We urge *all* NABS members to write to their U.S. Senators and U.S. Representatives asking for their support in putting the bluebird on a U.S. postage stamp. The Society is joined in these efforts by a variety of individuals and groups. **Mrs. Bruce Gunnell** writes that, thanks to her intercession, the upcoming issue of the Garden Clubs of America publication will enlist the help of garden club members in this cause.

Lillian Lund Files reports from Tyngsboro, MA, that the former Chief of the U.S. Postal Service is from her hometown. When she asked his help recently, he informed her that the bluebird stamp is on an agenda soon to be aired.

Maryland's "Bluebird County" (Prince Georges) which borders Washington, DC, is pressing the stamp cause also. **Marilyn Guerra**, backed by the Prince Georges Beautification

Committee, has alerted the County Executive, **Lawrence Hogan**, to the matter.

So, all of you NABS members out there in Bluebird Land, keep the card and letter campaign going.

The North American Bluebird Society will play a part in a scientific bird exchange with Taiwan. A pair of Eastern Bluebirds (*Sialia sialis*) will be traded for an unnamed Asian bird species; aviaries in both countries will benefit from this exchange. Don't you agree that no finer native North American bird could be chosen than the one with the built-in red, white and blue? As part of the back-up support system, two **Orville Rowe** cedar nestboxes and two hardback copies of *The Bluebird: How You Can Help Its Fight For Survival* by Lawrence Zeleny, will accompany the live specimens.

The transfer of the birds is being handled by the Smithsonian's ornithology chief and NABS' founding member, **Eugene Morton**.

Back home here the Philadelphia Flower Show was blessed with an award-winning member-generating bluebird exhibit. It was spearheaded by **Bob Schutsky** and **Dave Ellenberg** and underwritten by the Philadelphia Electric Company. Shades of *Parade* magazine—NABS garnered several *hundred* new members!

News of more bluebirding surprises came from Washington County, MD, and Bedford County, VA. NABS members in the Boonsboro, MD, area, **Ross Corderman** and **Norma Lewis** had very fine newspaper coverage of their existing bluebird trail. Ross mentioned in the article that he could use 75 more nestboxes if he could finance them. To his surprise, a bluebird "angel" was found who gladly offered to buy the lumber. Ross described his scramble to find a way to get the boxes built. One of the local residents found a junior high school shop class to do the work. Presto! A new trail is under way in Washington County, MD.

Deep in rural southern Virginia, Bedford County has recognized blue-

birds as an institution. Thanks to **M.C. Bradley**, the County Administrator for Public Services, posters on the bluebird's plight were placed in five locations: two banks, a farm store, a library, and a local five-and-ten-cent store. In a letter from Max Bradley he says,

The question is not "Can we get a bluebird club started," but how can I stop the steamroller that hit me? Or, could I get them to print another article in the paper and say that I have moved to South America.

Since the article hit the paper I have been swamped with orders for nesting boxes. Have found that a great number of people want to help the bluebirds and many of them either have bluebird trails going, or have several nesting boxes on their property.

In any event I have always been a glutton for punishment, so I will get a club started. Will you please forward 100 of the "Where Have All the Bluebirds Gone" brochure. Invoice me and I will remit.

There are countless surprises in the life of a bluebirder. At the time I am writing this piece, spring is well advanced. The Skunk Cabbage and Common Spicebush have bloomed and are in full leaf. The maples have flowered and gone to seed. And the bluebirds have come to my back yard!

After twelve years in two greater Washington, DC, suburban areas (each successive yard held its quota of nestboxes but no nesting bluebirds), this year late February's warmish days brought a *menage a trois* of bluebirds to my backyard. My work space looks out on the yard and provides me with an ever changing view of the natural world because the property borders a publicly-owned stream valley park.

The male bluebird and his three female companions startled NABS'

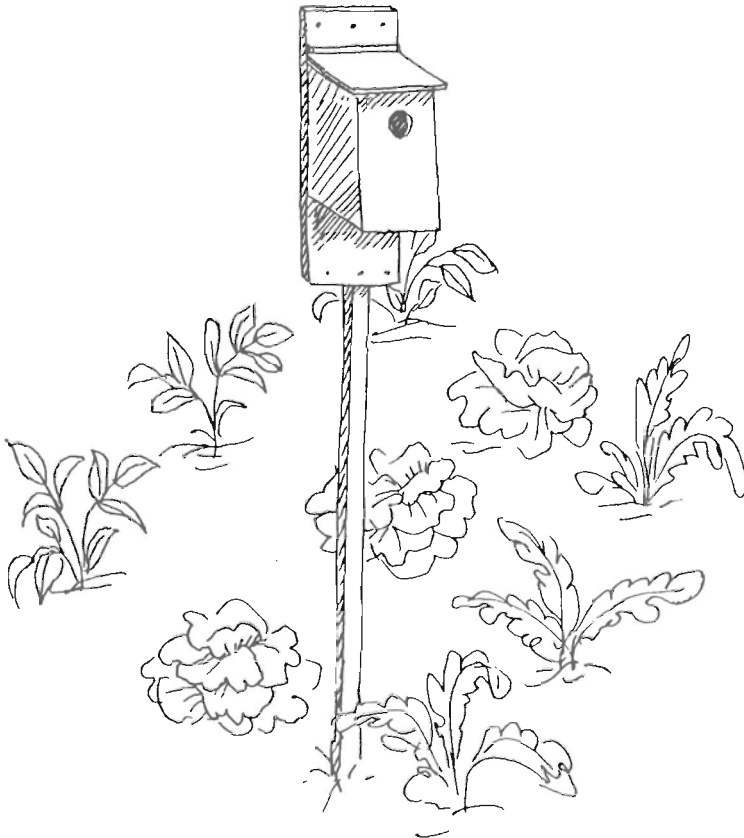
volunteers **Wally and Katie Knapp, Edith and Sarah Haviland, and Anne Sturm** who were sending out the mail in my dining room. The birds mesmerized me as I rubbed my eyes in disbelief. Each female was interested in a different nestbox, while the male had chosen one near a bush which would later bloom with lacy white blossoms. The bluebirds left. NABS' assistants **Carol Beyna, Jennie Shelton** and I watched in vain for three weeks. Then back they came on a sunny day in March. This time Mr. Bluebird had chosen a bride. They examined my boxes once again. In the meantime, chickadees had settled into the nextbox nearest the house. Mrs. Bluebird kept coming over to that box and looking in, but prudently succumbed to the chickadees' insistence of ownership. Finally, reject-

ing the vacant nestboxes, the bluebird pair left for another three week period.

The chickadees raised four fine young in the prettiest nest I've ever seen. They used the usual green moss and then lined it with soft down-like material. The material most available to them in my yard came from the lint filter in my dryer. Since I had just washed a blue blanket, blue fuzz lined the neat cup where Mama chickadee laid her eggs. The appealing sight of the four nestlings is one I'll remember a long time.

After the chickadees fledged, back came the male bluebird. He checked out the cleaned nestbox, and...(To be continued).

Will the bluebirds come back and nest at NABS headquarters? Read this column as the next chapter unfolds! ■



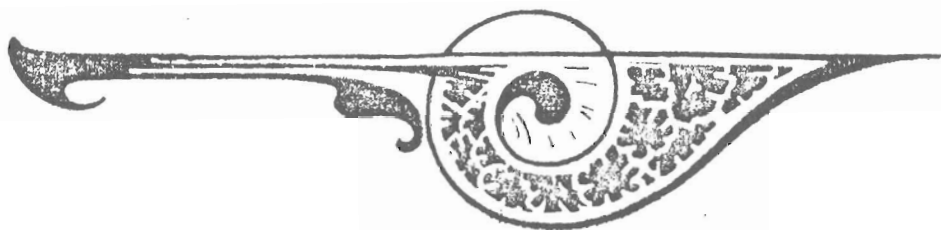
SWEET TALK

“Sweet talk” *does* work in many ways—
In words of love, in words of praise;
But what a joy, what a surprise,
My “sweet talk” brought before my eyes:
A lovely bluebird down to see—
To dance in mid-air close to me.

I could have touched him with my hand,
So close was he—it was so grand!
Then, just as suddenly he flew
To join his flock. I wish he knew
The thrill I felt at his salute;
I could not speak; I stood there mute.

Now never do I see one fly
Atop a tree or to the sky,
But what I see in memory
The bluebird “*sweet talk*” brought to me.

Katharine M. Braun



NORTH AMERICAN BLINDING SOCIETY, INC.
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS
NOVEMBER 1, 1979 THROUGH OCTOBER 31, 1980

Cash Balance - November 1, 1979 \$ 1,812.12

Add:

Cash Received

Sale of Sialia magazine	\$ 9,747.28	
Sale of boxes, books, pictures, stationery, etc.	45,896.87	
Sale of nest box building kits	14,377.15	
Contributions	5,562.40	
Membership dues	10,020.43	
Annual meeting	3,165.93	
Interest	1,250.02	
Sales tax collected	233.06	
	80,253.04	80,253.04

\$ 92,065.16

Less:

Cash Disbursements

Boxes, books, pictures, stationery, etc.	\$ 39,013.05	
Sialia magazine	7,826.68	
Educational material - nest box building kits	12,274.63	
Membership fulfillment	1,764.08	
Research	344.90	
Salaries	3,934.55	
Expense accounts	2,390.21	
Postage	2,561.81	
Office supplies	624.61	
Bank charges	105.44	
Equipment	669.85	
Deposit on telephone service	200.00	
Maryland sales tax remitted	228.43	
Annual meeting	2,046.53	
	74,094.77	74,094.77

Cash Balance - October 31, 1980 \$ 17,980.39

Accounted for as follows:

Citizens Bank & Trust Co. - Checking account	\$ 3,327.98	
Citizens Bank & Trust Co. - Savings account	4,054.80	
Citizens Bank & Trust Co. - Certificate of deposit	10,597.61	\$ 17,980.39

Dale E. Dupree
Treasurer



Note to Renewing Members

In order to save postage which is a substantial item in our budget, we have not been sending membership cards to renewing members by first class mail upon receipt of payment. Don't worry if you don't get prompt acknowledgment of your renewal. You will receive your membership card with your next issue of *Sialia*.

Art Credits

Jon Boone: 82, 114
Pam Cowart: 110
Fran Hanes: 87
Suzanne Pennell Turner: 91
Dragonfly; 96 Otter; 98 Japanese Honeysuckle; 100 Flowering Dogwood; 104; 111; 116; 118
Drawings which are not attributed are copyright free art, not original to this journal.

Founded in 1978, THE NORTH AMERICAN BLUEBIRD SOCIETY is an incorporated non-profit organization determined to increase the populations of the three species of bluebirds on this continent. Inasmuch as the populations of these birds have diminished due to the maladroit actions of human beings, as well as other natural disasters, the primary objective of the SOCIETY is to educate all who will listen about the importance of preserving these singular creatures in their native environment.

Toward this end, the SOCIETY will work, within the bounds of effective conservation, to study those obstacles impeding bluebird recovery; to publish results of those studies; to promote ideas and actions which might reduce the effect of those obstacles; and to obtain a more complete knowledge about bluebird ecology, in the hope of learning more about the ecology of humankind.

Membership: Students (under 21) and Senior (over 60), \$7.50; Regular, \$10; Sustaining, \$30; Supporting, \$50; Contributing, \$100; Corporate, \$100; Donor, \$250. Amounts over \$5 are tax deductible.

Address:
North American Bluebird Society
Box 6295
Silver Spring, MD 20906

