Sialia means bluebirds. Hence, the title of this journal. It is the word which the Swedish scientist, Carolus Linnaeus (1707-1778), used to name the genus grouping for bluebirds, a subset within the thrush family (Turdidae). 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 he classified, Linnaeus gave it the species name, sialis. Therefore the scientific name for the Eastern Bluebird is Sialia sialis (pronounced see-owl-lee-ah, see-owl-iss). Similarly, the Western Bluebird and Mountain Bluebird, the two other species within the genus, were named Sialia mexicana and Sialia currucoides (oo-roo-coy-dees) respectively, and their species names are descriptive of their locations. All three bluebirds are native only to the North American continent although each inhabits different regions generally separated by the Rocky Mountains and by altitude 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 this theme will remind all about the plight of the bluebirds, and will stimulate actions which will allow this beautiful creature to prosper.
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COVER

A reminder that it is nearly time to check, clean and repair or replace your trail boxes before the start of another bluebird nesting season. The winter has undoubtedly taken its toll. If you find evidence nesting boxes are roosts for House Sparrows, plug the entrance hole until February 15. Please check the entrance hole carefully to ensure that it is exactly 1 1/2” in diameter. Raccoons, mice and squirrels often try successfully to enlarge it.

After all is in readiness, sit back with the home fires burning. With a little luck, the bluebird of happiness will come to you.

SIALIA welcomes the submission of articles, artwork and photographs for publication. Manuscripts should be neatly typed and triple spaced. All submissions will be carefully considered, but authors considering major submissions should correspond with the editor first. All manuscripts will be acknowledged. Before preparing tables, graphs or other display material, please check with the editor about the requirements of our reproduction process. The editor's address is P.O. Box 6295, Silver Spring, MD 20906.
Where Do We Go From Here?

Marilyn Guerra

We are back from the very successful annual meeting at Front Royal, Virginia, and have had a few days to relax and sort out some of the information and ideas that were exchanged during our three days together. You will find a complete report on the meeting activities elsewhere in this issue.

I would like to take this opportunity to recognize the work done by our outgoing officers and board members in getting the Society launched. Robert M. Patterson, Immediate Past President, spent untold hours working on organizational, editorial and research projects. Thanks to his skillful and enthusiastic leadership, we are entering our second year with a membership of over twelve hundred, representing virtually every area of the continental United States and Canada. Several important research projects are well underway. Bob, we owe you a sincere vote of thanks.

Jon Boone has served the Society both as Vice President and editor of Sialia during this crucial establishment period. The fine quality of this publication is due to his expertise, his impeccable artistic taste and his untiring effort.

Gene Morton, who is the National Zoological Park’s Curator of Birds is also one of the Society’s directors. He made the arrangements for holding the annual meeting at the Smithsonian Institution’s Research Center.

Many, many others have contributed time and talent to make the organization work. This is a good time to remind ourselves that the Society is an all-volunteer group with no paid staff, dependent on membership dues and contributions of time and money to carry out its work.

One suggestion that was offered by several people at Front Royal was that various members arrange mini-meetings in their home areas. These could be one or two days long and feature bird walks, films, nesting box workshops, art and craft exhibits and informal show and tell sessions. Such meetings would inevitably attract new members among birder enthusiasts. Increased coverage in the local papers would help spread the word about the plight and the needs of the bluebird. If sponsoring or helping plan such a meeting interests you, the Society can help and support you with its slide show, nesting box plans and other literature. Given enough notice, we may also be able to have a representative of the Society present to talk about our work or other pertinent subjects. Contact Mary D. Janiato, the Executive Director, for more information. Think about it. You have a real contribution to make in your home territory.

Many of you must surely have seen the Parade Magazine cover article on helping bluebirds by Joan R. Heilman in the Sunday, November 25 edition. Over 35,000 responses have been received. This is proof that there are many, many individuals who want to help in the cause of bluebird conservation. Every Society member now reading this journal can help bluebirds by requesting names and addresses of new members in his local area. In this way a continent-wide network of people aiding the bluebird can be established. Just write the Society, care of Membership Department, Box 6295, Silver Spring, MD 20906.
When one thinks of the birds celebrated by the poets, he thinks of Shelley and Wordsworth and the English Skylark, of Keats and the English Nightingale, of Gerard Manley Hopkins and the Kestrel, of Thomas Hardy and the Darkling Thrush, of William Butler Yeats and the wild swans, perhaps of Robinson Jeffers and the fierce, very proud Red-Tailed Hawk. But when you come right down to it, the most birdy of our really good poets is the late Robert Frost.

America’s finest nature poet (some would say her only genuine nature poet) clearly loved birds dearly, from the beginning. In some forty lyrics he writes fondly of birds, often in a general way, but often of particular birds. He was very sensitive to the distinctive qualities of the many New England songbirds, and while he was maybe not what you would call an Audubon birdwatcher, he had a keen eye, a sharp ear, an accurate language, and a facile pen. He would hear, for instance, the little cluck at the close of the Whip-poor-will’s call, and he understood perfectly what the Ovenbird could make of a “diminished thing.”

At the Derry farm in New Hampshire, according to the journal kept by Frost’s daughter Lesley, the family enjoyed robins, Song Sparrows, Scarlet Tanagers, chickadees, Bluejays, a henhawk (“a big white hawk”—probably a Cooper’s Hawk), orioles, phoebes, Barn Swallows, warblers, blackbirds, pewees, nut-hatches, the Hermit Thrush, the Rose-breasted Grosbeak, wrens, vireos, flickers, Red-headed and Downy Woodpeckers, Cedar Waxwings (“who fought us for the cherries”), Brown Thrashers, and “a great flock of juncos.”

Thus it is not surprising to find the poet through the early years of this century delighting in the bluebird. In fact, Lesley speaks of the bluebirds as the birds “whom we seemed to favor and who favored us.” And, judged statistically, the bluebird would appear to be the poet’s favorite. At least this beautiful farm bird received the most attention in his lyrics. It is mentioned in the poem “Our Singing Strength,” and in “The Bonfire” the speaker tells us that the “breezes were so spent with winter blowing/They seemed to fail the bluebirds under them.”

He also appears in the slight lyric “Fragmentary Blue,” unless that little bit of blue described there is produced instead by the Indigo Bunting. Elsewhere the flight of the bluebird strikes him as “languid.”

He has a whole stanza in the very popular “Two Tramps in Mud Time.” It is an April day:

A Bluebird comes tenderly up to alight
And turns to the wind to unruffle a plume
his song so pitched as not to excite
A single flower as yet to bloom.
It is snowing a flake: and he half knew
Winter was only playing possum.
Except in color he isn’t blue,
but he wouldn’t advise a thing to blossom.

He has a whole poem in “The Last Word of a Bluebird” (first called “The Message the Crow Gave Me for Lesley”), where he speaks playfully to the poet’s seven-year-old daughter, in a way that she can understand:

As I went out a Crow
In a low voice said, “Oh,
I was looking for you.
How do you do?
I just came to tell you
To tell Lesley (will you?)
That her little Bluebird
Wanted me to bring word
That the north wind last night
That made the stars bright
And made ice on the trough
Almost made him cough
His tail feathers off.
He just had to fly!
But he sent her Good-by,
And said to be good,
And wear her red hood,
And look for skunk tracks
In the snow with an ax—
And do everything!
And perhaps in the spring
He would come back and sing.”

So the bluebird, while threatened by all kinds of destructive forces, lives on in the imperishable poetry of the country’s foremost lyrical voice.
New York, the aggressive forerunner in many ways, was the last state in the Union to acquire an official state bird; and it was not until May 18, 1970, that Governor Rockefeller signed a bill elevating the eastern bluebird (Sialia sialis) to a select group of twenty-nine species representing the forty-nine states. Seven Eastern states share the cardinal, the bird most heavily favored; six Western states have the meadowlark; and five in Dixie claim the mockingbird. New York shares the eastern bluebird with Missouri. A second bluebird, the mountain bluebird, is the choice of another pair of states—Idaho and Nevada. There is no confusing the two birds, however. The eastern bluebird is a lowland dweller with a reddish breast and a cheery warble, while the mountain bluebird’s feathers lack any touch of red. Normally, the mountain bluebird stays at altitudes greater than a mile and is, except at dawn, a remarkably silent creature.

State birds are usually selected for their historical associations, economic value, beauty of song. Alabama, for example, chose the flicker because its yellow, black, and red feathers were the colors worn into battle by various of the state’s contingents in the Civil War. Utah’s California gull rendered crucial service to the earliest Mormon settlers during the first spring after their arrival; it devoured hordes of locusts that were eating the first crop of grain as it sprouted. And South Dakota’s ring-necked pheasant—not a native, in fact, but a bird of Asiatic origin—annually draws to the state thousands of hunters, who leave there large quantities of money.

Ordinarily, state birds are adopted by acts of legislatures or gubernatorial proclamation. A few, however, have become official by tradition or other means. The brown pelican, the largest state bird, whose wingspread can be an awesome nine feet, is considered Louisiana’s state bird because it adorns the state seal, approved in 1902. This is also the method by which the bald eagle has come to be the official bird of the United States. In 1782, Congress voted to put the eagle in the country’s great seal.

Action on state birds has typically been initiated by a state’s Federation of Women’s Clubs, aided and abetted by conservation groups and public school authorities. The nineteen-twenties and thirties were an especially active time—
thanks in large measure to Mrs. Katherine B. Tippetts, of the General Federation of Women’s Clubs, in Washington, D.C. At her suggestion, women’s clubs in states lacking an official bird placed the names of favorite birds on informal ballots, which were distributed as widely as possible, particular attention being paid to the schools. “The state bird itself is really less important than the thought and discussion involved in its selection,” Mrs. Tippetts has said. A number of states had already set aside a Bird Day for avian study and appreciation, and the state-bird vote was commonly announced on Bird Day.

New York’s first Bird Day was on April 2, 1915, an occasion that in due course (as environmental study broadened) was incorporated into Arbor Day and Wildlife Day, and in recent years has become simply Conservation Day. On April 13, 1928—that year’s Bird Day—it was revealed that the bluebird had won an informal referendum held under the direction of Mrs. Charles Cyrus Marshall, of the New York State Federation of Women’s Clubs. Runner-up was the robin, honored today as the state bird of Connecticut, Michigan, and Wisconsin. Official action usually follows the popular vote within a year or so, but the bluebird languished as New York’s unofficial bird for forty-two years, the longest unofficial-state-bird tenure on record. A decisive move to correct this situation was made in the spring of 1969, when Mr. and Mrs. Allen Christopher, of Marathon, in Cortland County—excellent bluebird terrain—asked their assemblyman, George M. Michaels, of Auburn, to do something about getting legislation passed to make the bluebird’s status official. Mrs. Christopher and her husband, who run a home-and-garden-supply store, are active amateur ornithologists and had just attended a convention of the Federation of Bird Clubs of the State of New York, held in Marathon, where the long-standing neglect of the bluebird had been noted with more than a little asperity. Michaels explained that it was too late to introduce a bill in 1969, but promised to do so the following year.

True to his word, at the next session Michaels set the machinery in motion. In the Senate, he got Senator Tarky Lombardi, of Syracuse, to handle the bill, which became S.6245. It was passed on February 18th, by a vote of forty-nine ayes and no nays, seven senators being absent or excused. Final legislative action took place on March 2nd in the Assembly. Mr. and Mrs. Christopher had seats in the chamber when Michaels, wearing a bluebird pin on his lapel, rose to introduce the measure. At first, he had difficulty making himself heard over a barrage of cheeps and twitters from both sides of the aisle, but, having surmounted this difficulty, Michaels launched into his endorsement and, to applause from the chamber, introduced Mrs. Christopher, noting that three of her forebears had served in the Assembly. “Ladies and gentlemen,” Michaels said, “in order to make Mrs. Christopher’s happiness complete, I implore you to give this bill your unanimous support.”

All did not go quite as smoothly as it had in the Senate, however. An opponent materialized. Seymour Posner, Democrat of the Bronx, rose and said, “Mr. Speaker, I have some grave misgivings about the particular bill.” He pointed out that city dwellers, of which he was one, knew the sparrow and knew the pigeon. “But think it is premature to talk about the bluebird,” he said, “because, very frankly, the bluebird is not a bird that is well known. Who has seen a blue joy—bluebird, whatever they are—who has ever seen a bluebird except on greeting cards, and people who live in rural America? People who live in the lower East Side and West Side and North Side and South Side—how are we going to go along with a bird we never saw?” Despite Posner’s antagonism, however, the bill passed—a hundred and forty-four to one—and in due course was sent along to the governor. Those present two months later at the signing report that he affixed his signature rapidly, with no outward show of emotion.

Assemblyman Posner had a point. It is, as a matter of fact, highly unlikely that most people who live in this city will ever see a bluebird, unless they journey to the American Museum of Natural History, where there is a mounted specimen of our state bird in a display entitled “Birds of the New York Area.” The reason a city dweller and a bluebird are unlikely to meet is a
matter of habitat. City residents tolerate crowding, noise, pollution, and the substitution of concrete for greenery. The bluebird, which is slightly larger than a sparrow and has a poor, round-shouldered posture when perching, prefers quiet and rural surroundings. It is, in effect, a bird of another era. In the vanished Currier & Ives landscape of an America of long ago, when the ice was going from the lake and patches of snow still lay in the forest the bluebird was one of the first to greet the plowmen venturing into their fields. A nineteenth-century poet described its coming as "a rumor in the air for two or three days before it takes visible shape." Its back the purest blue, matching the cloudless sky, its red-brown breast the color of the awakening earth, the bluebird was the gentle symbol of spring for a gentler land. Three hundred and fifty years ago, it reminded the Pilgrims of the chunky robin redbreast they had left behind in England, and they called it the blue robin.

Central Park in autumn used to provide a good chance of glimpsing a bluebird in Manhattan. Fairly sizable numbers on occasion were seen there migrating southward on soft, sunny days. (Hence the expression "bluebird weather.") In the spring, bluebirds migrate farther west and were rarely seen in Central Park. They cannot be called common anywhere these days, and they have been put on the Audubon Society's "Blue List" of birds whose future seems endangered. Drastic scarcity was authoritatively noted in the winter of 1961-62 by Dr. Douglas James, of the University of Arkansas, perhaps the country's foremost bluebird scholar. He wrote that the abundance then was less than twenty per cent of normal, the lowest ever recorded in the annual nationwide Christmas bird census of the Audubon Society. (Most bluebirds fly south in winter, but quite a few have normally been observed right through the winter in all but the most northerly areas in this country and Canada.) The severity of several winters and cold early-spring storms in the Northeast along the migration routes during this period had apparently wiped out the last bluebirds known to nest in New York City. Before that, several pairs had regularly raised young each year in the woods of La Tourette Park, in the center of Staten Island, the adults cruising out over its golf course for insects, which they took either on the ground or on the wing. (Army worms, tent caterpillars, cutworms, and other pests are staples of their diet.) Bluebirds once nested in Central Park, but Richard Edes Harrison, the cartographer and conservationist, cannot recall any Manhattan nesters in the thirty years or more he has been birding here. Nor have any been spotted recently by members of the Linnaean Society in any of the other boroughs. John Bull, of the staff of the American Museum of Natural History, compiler of the authoritative "Birds of the New York Area," agrees with this assessment.

EDITOR’S NOTE

This article was excerpted from a larger article with the same title and appeared in the New Yorker magazine (December 24, 1973). We thank the New Yorker for granting permission to reprint it.

It should be noted that Mr. Kinkead undertook many trips to locate the elusive bluebird and finally discovered a pair in Chappaqua. He writes,

The pair may still be there. I well remember, during my winters in Chappaqua, looking out on sunny days after heavy snows, when dripping icicles hung from gutters on my house and seeing flocks of four or six bluebirds hover and daintily sip the water drops hanging at the ends of the crystal spears. The quick flutterings of bright blue and red against the piled white snow were a delight.

We encourage members from Idaho, Missouri and Nevada to research how the bluebird became their state's bird and to share those findings with us.
Local Governments

Befriend Bluebirds

Mary D. Janetatos

Two county governments in the State of Maryland have in the past few years issued proclamations which focussed attention on the plight of the Eastern Bluebird. These proclamations appear at the end of this article.

During the Bicentennial Year of 1976, the Prince Georges County Beautification Committee recommended that the County government designate the Eastern Bluebird to be its avian symbol of beauty. There are several interesting reasons why this happened. Larry Zeleny’s own bluebird trail is in the County, by special permission, on the Beltsville Agricultural Research Center grounds. Prize-winning wildlife photographer, Michael L. Smith, whose stunning photographs of bluebirds were used in the Zeleny article in National Geographic—June 1977, took those beautiful pictures in his Upper Marlboro (Prince Georges County) back yard. Bordering the Beltsville facility is Goddard Space Flight Center where bluebirds have prospered under the encouragement of the grounds manager, Delos C. “Chuck” Dupree. While serving on the Prince Georges County Beautification Committee, Chuck enlisted Larry Zeleny’s support for declaring the bluebird an official symbol of the County. Acting on the excellent recommendations of Chuck and of Marilyn Guerra, the County Executive and County Council issued the first Bluebird Proclamation in March of 1976.

In doing this, the County government acknowledged the beauty of the bluebird and encouraged its citizens to become involved in saving it for posterity. And the citizens did become involved. Camp Fire Girls, whose Junior division, Bluebirds, were especially enthusiastic, could expect to enjoy the sight of the birds nearby, and the previously mentioned trails. Annually, during the first week in March, which was designated “Bluebird Week,” the children donated bluebird houses which they had made to be used in suitable places throughout the County where volunteer adults monitored them.

Another facet of the observance was the original painting of the male and female bluebirds which was done for the Bicentennial by a local wildlife artist—Deborah Smallwood Medford. A limited edition of signed and numbered prints became available for purchase by the public, thus raising funds for other Beautification Committee projects. [N.A.B.S. members can obtain one of these as a few were made available to the Society. See enclosed Membership Services list.]

Since Maryland is near the northern limits of the bluebird’s winter range, bluebirds can be seen year-round in places like Bowie, the ARC and GSFC. Indeed, thanks to bluebird enthusiasts throughout the County, Prince Georges usually leads other counties in the State of Maryland in numbers of bluebirds seen on the Christmas Bird Counts.

Prince Georges’ neighboring county to the west is Montgomery County. Here, with few notable exceptions, the bluebird is afflicted with the same public ignorance and apathy that it faces almost everywhere. Among the exceptions is the rural Barnesville area, where Anne Sturm has waged a bluebird nesting box campaign. Over one hundred nesting boxes have been set out by Mrs. Sturm and her local collaborators, including her latest expansion area, the industrial parks of IBM, ComSat, and the property of the National Bureau of Standards. Barnesville is one Montgomery County town where the people know what a bluebird looks like. Other extensive trails are maintained by N.A.B.S. members Ed McKnight and Paul Woodward.

In 1979, the Montgomery County government declared March and April to be “Befriend the Bluebirds Time” in that County. This proclamation encouraged the scheduling of various activities in bluebird
education throughout the county for these two months. Some of these activities were: tours of existing trails in the County; illustrated talks given by N.A.B.S. Founder, Larry Zeleny at County libraries; slide presentations given by Executive Director Mary Janetatos at requesting elementary schools; a month-long bluebird exhibit at Meadowside Nature Center, a N.A.B.S. group member, where bluebirds have nested in past years; and the dedication of one of a number of trails now permitted on the properties of the Washington Suburban Sanitary Commission.

Society members who want to alert their local citizenry to the cause of bluebird conservation could initiate similar efforts in their own communities. Steps toward doing

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**PRINCE GEORGE'S COUNTY, MARYLAND**

**A Proclamation**

WHEREAS, THE EASTERN BLUEBIRD, THE OFFICIAL BIRD OF PRINCE GEORGE'S COUNTY, IS A SPECIES OF UNIQUE BEAUTY AND RED, WHITE AND BLUE COLORING APPROPRIATE TO COMMEMORATE THIS COUNTRY'S BICENTENNIAL; AND

WHEREAS, THE EASTERN BLUEBIRD DATES BACK TO COLONIAL TIMES, ALTHOUGH THE SPECIES HAS BECOME RARE IN RECENT TIMES, AND DESERVES SPECIAL ATTENTION BY OUR CITIZENS INTERESTED IN ORNITHOLOGY IN ORDER TO PROMOTE THE BIRD'S CONTINUED EXISTENCE; AND

WHEREAS, MANY LOCAL JURISDICTIONS AND ALL STATES HAVE ADOPTED A NATIVE BIRD AS THEIR EMBLEM TO MAKE CITIZENS MORE AWARE OF THEIR HERITAGE AND THE NATURAL BEAUTY SURROUNDING THEM; AND

WHEREAS, VARIOUS PRINCE GEORGE'S ORGANIZATIONS ALREADY HAVE BUILT NESTING BOXES TO SAVE THE EASTERN BLUEBIRD FROM EXTINCTION AND HAVE BEGUN PLACING THE NESTING BOXES IN APPROPRIATE LOCATIONS DURING MARCH, THE BIRD'S NATURAL NESTING SEASON.

NOW, THEREFORE BE IT PROCLAIMED BY THE COUNTY COUNCIL AND COUNTY EXECUTIVE OF PRINCE GEORGE'S COUNTY, MARYLAND THAT THE FIRST FULL WEEK OF EACH MARCH IS HEREBY DESIGNATED AS BLUEBIRD WEEK AND THAT ALL CITIZENS ARE URGED TO BUILD AND PLACE NESTING BOXES AND TO JOIN IN OTHER ACTIVITIES TO ENCOURAGE THE BIRD'S POPULATION GROWTH.
Each time you accomplish an activity, present the participants with a bluebird memento (available from N.A.B.S.) and a copy of the proclamation to show that they have taken part in the efforts to save the bluebird. Don’t forget to give the address of N.A.B.S. in your material. This can become an annual event, and has proven to have many good results. These include heightened public awareness of the bluebird, increased interest in all of nature’s wonders, and the applications of new concepts which are learned.

Should you decide to initiate a “Save the Bluebird” campaign in your area, now is a good time to start. When winter comes, can spring be far behind...?

WHEREAS, the Eastern Bluebird is a favorite native American bird species whose beautiful pattern of color, red, white and blue, reminds us of our National Flowers and

WHEREAS, the Eastern Bluebird’s population has declined substantially; and

WHEREAS, the Eastern Bluebird’s diet of insect pests helps maintain a beneficial balance in nature; and

WHEREAS, due to these facts the North American Bluebird Society was formed to help preserve the Eastern Bluebird, and its kindred species, the Western bluebird, and the Mountain Bluebird; and

WHEREAS, the home office of the Society is in Silver Spring, Montgomery County, Maryland; and

WHEREAS, various Montgomery County organizations, including the Camp Fire Girls, already have placed nesting boxes in suitable habitat to help increase the bird’s population in Montgomery County;

NOW, THEREFORE, be it proclaimed by the County Council of Montgomery County, Maryland that the months of March and April be recognized as

BEFRIEND THE BLUEBIRDS

time in Montgomery County. We encourage the citizens of the County to become informed about the bluebird and, when possible, to erect and monitor nesting boxes in suitable places throughout the County.

COUNCIL PRESIDENT

[Signature]
Bluebirds, nest only in cavities of some sort, either natural or man-made. Formerly the sites used consisted almost entirely of old woodpecker holes and other natural cavities in dead trees, dead branches and rotted-out wooden fence posts. Since it is now common practice to destroy dead trees and branches, especially those in the open areas that are acceptable to bluebirds, and since wooden fence posts are rapidly being replaced by metal, a serious shortage of bluebird nesting sites has developed. The introduction and widespread dissemination of the House Sparrow and especially the Starling have made this situation much worse, since these foreign species have a strong preference for the same type of nesting cavities required by the bluebirds. They compete directly with the bluebirds for these scarce cavities. Bluebirds can rarely compete successfully with House Sparrows for nesting sites and never with Starlings. Unlike the bluebirds, however, House Sparrows and Starlings do not actually require cavities for nesting, hence the shortage of cavities does not limit their numbers.

The critical shortage of natural nesting sites available to the bluebirds, especially the Eastern Bluebird, is believed to be one of the major reasons for the rapid decline in their numbers. For the same reason bluebirds are becoming more and more dependent on artificial cavities (nesting boxes or bird houses) supplied by man. Fortunately these nesting boxes are easily made to be Starling-proof and, when properly placed, interference by House Sparrows may be somewhat minimized. There appears to be good evidence that in suitable areas where a sufficient number of properly constructed and properly placed nesting boxes are used the bluebird population rapidly increases.

If the Starling population continues to expand into all bluebird nesting areas, the bluebirds will probably of necessity become even more dependent on man-made nesting boxes for their survival. It is imperative, therefore, that these boxes be constructed and placed properly to provide the greatest chance for successful nesting.

Bluebird eggs in nesting boxes often fail to hatch or the young may die in the nests from causes other than predation. When these things happen in hot weather the cause may be excessive heat in the boxes. These boxes are usually placed in sunny locations since bluebirds prefer to nest in open areas.

**Lethal Temperatures**

No positive information is available on the maximum temperatures that can be tolerated by bluebird eggs and nestlings. Most North American passerine birds, however, are known to have body temperatures of about 106° F. Huggins (1941) has shown that the temperature of Eastern Bluebird (Sialia sialis) eggs during natural incubation in warm weather averages about 93° F. and may go as high as 101° F. Kendeigh (1963) found the mean natural incubation temperature for House Wren (Troglodytes aedon) eggs to be 95° F., not much different from bluebird eggs.

Kendeigh (1968), working with House Wrens, found that when their partly incubated eggs are subjected to temperatures of from 108° F. to 111° F. for one hour a 50 percent mortality occurs, and at 114° F. all of the embryos are killed.

It is probably reasonable to assume that, since their incubation temperatures are similar, bluebird eggs do not differ much from House Wren eggs in respect to the maximum temperature they can tolerate. Lacking any scientific data on the lethal temperature for nestlings, it may also be assumed that nestlings, at least during the first few days after they are
hatched, can tolerate about the same temperature as the eggs. Thus it would appear that any nesting box in which the interior temperature on hot sunny days is in excess of 107° F. may be unsafe for nesting by bluebirds and probably other cavity-nesting passerine birds.

**Nesting Box Temperature Measurements**

Thirty-two bluebird nesting boxes were mounted on a horizontal wooden beam fully exposed to the sun. These boxes differed in design, material, color, and amount of ventilation provided. All had the standard 1½-inch diameter entrance hole. All of the boxes were mounted to face south except where otherwise noted. Most of the boxes were specially made to provide the variables desired but several commercial bluebird boxes were included in the series.

All boxes, except where noted, met the following specifications considered to be about the best from the standpoints of bluebird acceptance combined with protection against predators and competing species:

- Depth of cavity (front): 9½"
- Inside floor dimensions: 4" x 4"
- Distance from floor to bottom of opening: 6"
- Diameter of opening: 1½"
- Ventilation and drainage: Two 3/8" holes in front board near top opening between both side boards and top tapering from ¼" to zero, ¼" cut off from each corner of bottom board for drainage.

A thermometer was placed in each box with the bulb about one inch above the center of the floor. The approximate location of the bottom of the cup of a bluebird nest. All thermometers used were compared with a standard thermometer and correction factors established when necessary. Temperature readings to the nearest 1° F. were taken at some time between noon and 2:00 p.m. standard time on sunny days during June and July 1967 and 1968 when the nearby shade temperature was between 80° and 90° F.

In the tables that follow the "temp. rise" columns show the differences between the temperatures inside the nesting boxes and the nearby shade temperature. The "max. safe shade temp." columns show the maximum shade temperatures at which the nesting boxes can be safely used when exposed to the full sun, assuming that 107° F. is the maximum safe temperature for bluebird eggs and newly hatched nestlings. In most instances temperatures shown were computed from the averages of ten or more closely agreeing readings taken on different days.

**Effect of Color on Temperature**

The data in Table 1 show clearly that the exterior color of the nesting box has a very important influence on the internal temperature when the box is exposed to the sun. The temperature rise in dark-colored boxes is more than twice that in light-colored boxes. The data also show that the color of the top of the box in itself has only a small influence on the internal temperature. Thus there is only a small advantage in using a white top on a dark-colored box.

<table>
<thead>
<tr>
<th>Exterior color of box</th>
<th>Pine box 3/8&quot; wood</th>
<th>Fir plywood box 3/8&quot; wood</th>
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<td></td>
<td>Temp. rise °F.</td>
<td>Max. safe shade temp. °F.</td>
</tr>
<tr>
<td>White</td>
<td>6</td>
<td>101</td>
</tr>
<tr>
<td>Natural wood color</td>
<td>8</td>
<td>99</td>
</tr>
<tr>
<td>Light tan</td>
<td>9</td>
<td>98</td>
</tr>
<tr>
<td>Aluminum paint</td>
<td>10</td>
<td>97</td>
</tr>
<tr>
<td>Medium green</td>
<td>12</td>
<td>95</td>
</tr>
<tr>
<td>Dark brown</td>
<td>17</td>
<td>90</td>
</tr>
<tr>
<td>White with dark brown top</td>
<td>8</td>
<td>99</td>
</tr>
<tr>
<td>Light tan with white top</td>
<td>9</td>
<td>98</td>
</tr>
<tr>
<td>Med. green with light tan top</td>
<td>11</td>
<td>96</td>
</tr>
<tr>
<td>Dark brown with white top</td>
<td>16</td>
<td>91</td>
</tr>
</tbody>
</table>
Effect of Wood Thickness on Temperatures

The data in Table 1 show that for every color used the interior temperature was significantly lower in the boxes made of 3/4" pine than in those made of 3/8" fir plywood. This was probably due to the superior insulating quality of the thicker wood. Three boxes made of different thicknesses of unfinished cedar were also compared. The results in Table 2 also show, as expected, that the thicker the wood the lower the interior temperature when the box is exposed to the sun.

<table>
<thead>
<tr>
<th>Wood thickness</th>
<th>Temperature rise °F.</th>
<th>Max. safe shade temp. °F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>8</td>
<td>99</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>9</td>
<td>98</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>12</td>
<td>96</td>
</tr>
</tbody>
</table>

Effect of Ventilation on Temperature

The influence of ventilation on the interior temperature of nesting boxes in full sunlight is shown in Table 3. The boxes with no ventilation had all openings except the entrance holes closed. The boxes with extra ventilation had the tops raised in front to provide about six times the open area of the standard box (not considering the entrance hole) for heated air to escape. The data show that the standard ventilation openings provided in these boxes and already described were effective in reducing the interior temperature. A six-fold increase in the area of ventilation openings, however, produced no significant further reduction of temperature.

<table>
<thead>
<tr>
<th>Exterior color of box</th>
<th>No ventilation</th>
<th>Standard ventilation</th>
<th>Extra ventilation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Temp. rise °F.</td>
<td>MSST*</td>
<td>Temp. rise °F.</td>
</tr>
<tr>
<td>White</td>
<td>8</td>
<td>99</td>
<td>6</td>
</tr>
<tr>
<td>Light tan</td>
<td>11</td>
<td>96</td>
<td>9</td>
</tr>
<tr>
<td>Aluminum paint</td>
<td>12</td>
<td>95</td>
<td>10</td>
</tr>
<tr>
<td>Medium green</td>
<td>15</td>
<td>92</td>
<td>12</td>
</tr>
<tr>
<td>Dark brown</td>
<td>20</td>
<td>87</td>
<td>17</td>
</tr>
</tbody>
</table>

*Maximum safe shade temperature, °F.

Effect of Double Tops on Temperature

It has been suggested that the interior temperature of nesting boxes exposed to the sun could be reduced by using double thickness tops and separating the two parts by an air space. This was tried and the results are shown in Table 4. The two parts of the double tops were separated by 1/4-inch air spaces. It is obvious from the data that the double tops do not offer any important advantage except perhaps in the case of very thin tops such as that on the masonite box tested.

<table>
<thead>
<tr>
<th>Description of box</th>
<th>Single top</th>
<th>Double top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Temp. rise °F.</td>
<td>MSST*</td>
</tr>
<tr>
<td>3/4&quot; pine, white finish</td>
<td>6</td>
<td>101</td>
</tr>
<tr>
<td>3/4&quot; pine, light tan finish</td>
<td>9</td>
<td>98</td>
</tr>
<tr>
<td>3/8&quot; fir plywood, light tan finish</td>
<td>12</td>
<td>95</td>
</tr>
<tr>
<td>1/8&quot; masonite, wood sides, dark brown</td>
<td>20</td>
<td>87</td>
</tr>
</tbody>
</table>

*Maximum safe shade temperature, °F.
Effect of Direction on Temperature

Nesting boxes made of ¾” pine and finished with a light tan color were mounted to face in four different directions to determine any effect of direction on temperature. The results in Table 5 show that such effect is quite small. It is possible, of course, that with a strong wind a more noticeable effect would occur depending on the direction of the wind.

<table>
<thead>
<tr>
<th>Facing direction</th>
<th>Temp. rise °F.</th>
<th>MSST*</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>9</td>
<td>98</td>
</tr>
<tr>
<td>West</td>
<td>10</td>
<td>97</td>
</tr>
<tr>
<td>North</td>
<td>9</td>
<td>98</td>
</tr>
<tr>
<td>East</td>
<td>10</td>
<td>97</td>
</tr>
</tbody>
</table>

*Maximum safe shade temperature, °F.

Other Nesting Boxes

Several other bluebird nesting boxes from various sources, of various dimensions, and made of different materials were tested. These are described briefly as follows:

1. A simulated woodpecker hole made by hollowing an 8-inch diameter oak log to form a cavity about 4 inches in diameter, thus leaving walls about 2 inches thick. Heavy boards covered the ends and a 1½ inch entrance hole was drilled 6 inches above the floor. This closely approximated a natural bluebird nesting site.

2. A ¾ inch pine box with 3 ½ x 3 ½ inch floor and opening 4 inches above the floor. The box was stained a medium brown and was not provided with additional openings for ventilation or drainage. Sheet aluminum covered the wood top. This type of box is being used successfully on a fairly large scale and is usually hung on the shady side of a utility pole.

3. A dark brown box made of ½ inch masonite except the sides which were ¾ inch boards. The floor was 5 x 4½ inches and the opening was 4 inches above the floor. Ventilation and drainage holes were provided. This box is widely used and recommended by a local Audubon club in a Northern State.

4. A very simple and inexpensive nesting box made from a thin white plastic gallon jug of the type used for household bleaching liquids, etc. The entrance hole was 5 inches above the floor. A drainage hole was provided and the screw cap left off the top to provide ventilation. This type of nesting box, intended to be hung by the handle, is said to have been used successfully in shady locations.

5. A molded green plastic cylindrical nesting box 3½ inches in diameter with its opening 3 inches above the floor. It was provided with openings for ventilation and drainage and was designed to be hung with a wire attached to a ring in the center of the top. This box is said to be recommended by a State Audubon society.

The temperature data for the above five miscellaneous nesting boxes when exposed to full sun are shown in Table 6. The simulated woodpecker hole (box No. 1) kept remarkably cool evidently because of the excellent insulating qualities of the thick walls, in spite of the dark color of the bark. Boxes 3, 4 and 5 all got quite hot. Plastic containers and even metal cans can be used to make bluebird boxes but it is absolutely necessary that such devices be placed in fully shaded locations or else that they be provided with heavy wooden roofs large enough to shade the containers at all times.

<table>
<thead>
<tr>
<th>Box No.</th>
<th>Temp. rise °F.</th>
<th>Max. safe shade temp. °F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>102</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>93</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>87</td>
</tr>
<tr>
<td>4</td>
<td>22</td>
<td>85</td>
</tr>
<tr>
<td>5</td>
<td>23</td>
<td>84</td>
</tr>
</tbody>
</table>
Discussion

Since the available evidence indicates that bluebird eggs and probably young nestlings cannot tolerate temperatures higher than 107° F, it is apparent that many of the nesting boxes included in this study when mounted in sunny locations may sometimes get hot enough to cause the destruction of eggs and the death of young birds. This is particularly true in the warmer parts of the country and especially in the case of second and third broods which are raised during the hottest months of the year. First broods raised in the spring would be relatively safe from heat in most of the boxes tested, except perhaps in some parts of the deep South.

In areas where the maximum shade temperature expected during the bluebird breeding season is 90° F, all boxes showing temperature elevations of 18° F or more would be unsafe. This would include some of the nesting boxes now widely used and recommended by local Audubon societies.

In areas where the maximum shade temperature expected is 100° F, all boxes showing temperature elevations of 8° F or more would be unsafe. This would include all of the boxes tested except the simulated woodpecker hole and the box made of 3/4 inch pine and painted white. White nesting boxes, however, may be somewhat undesirable since they tend to be quite conspicuous and therefore more likely to be disturbed by human intruders. Also there is some evidence that white boxes may be slightly less acceptable to the bluebirds than duller colored boxes. In these very hot areas it is safer to place bluebird boxes where they are shaded during the hottest part of the day.

Bluebirds prefer open areas, however, so the boxes should never be placed in heavily wooded areas. A location in the shade of a large isolated tree is ideal in very hot climates. Boxes attached to the north or northeast sides of utility poles will also remain sufficiently cool.

Over most of the country where shade temperatures rarely exceed 95° F, any light colored wooden boxes with proper ventilation may safely be placed in sunny locations, particularly if the boxes are made of 3/4 inch or thicker wood. Pine or cedar boxes of natural wood color are satisfactory. The light natural color can be maintained by finishing the outside of the boxes with an uncolored alkyd wood sealer, Spar varnish can also be used. Do not use chemical wood preservatives such as pentachlorophenol. They are likely to injure the birds.

Conclusions

1. Bluebird eggs and young nestlings are in danger of being killed by heat at temperatures in excess of 107° F. (42° C.).
2. Many bluebird nest failures, especially of second and third broods, are probably due to excessive heat resulting from the use of improperly made or improperly located nesting boxes.
3. The interior temperatures of bluebird nesting boxes in the open sunny locations preferred by these birds are greatly influenced by the exterior color. It is important to use light colors to help keep the boxes cool.
4. Thick wood provides better insulation than thin wood. Wood at least 3/4 inch thick is recommended when the boxes are to be used in hot areas.
5. Small openings as described near the tops of the front and sides of the boxes for ventilation help keep the boxes cool. Larger openings have little if any added advantage.
6. Double tops on bluebird boxes have very little advantage over single tops unless the material of the top is very thin.
7. The direction toward which a nesting box faces has very little influence on its interior temperature, except perhaps on windy days.
8. Dark colored nesting boxes, especially those made of thin material, are not safe for second and third broods of bluebirds in most parts of the country unless they are placed in shaded locations.
9. Bluebird nesting boxes made of plastic or metal should always be completely shaded unless they have been proved to be safe in sunny locations.
10. In most parts of the country bluebird nesting boxes made of wood at least 3/4 inch thick, provided with proper ventilation, and finished in a light color may be placed in sunny locations without danger to the eggs or young from Sialia, Winter 1980
excessive temperatures.

In areas where shade temperatures of 100°F (38°C) or more are common, nesting boxes if placed in sunny locations should be made of wood at least ¾ inch thick and painted white on the outside. Nesting boxes made of very heavy lumber (1½ or 2 inches thick) would probably also be safe regardless of color if they have proper ventilation. In these areas it is usually desirable to place nesting boxes in shady but reasonably open locations.

Literature Cited


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EDITOR’S NOTE

Dr. Zeleny’s article first appeared in the Winter 1968 issue of The Atlantic Naturalist, former quarterly publication of the Audubon Naturalist Society of the Central Atlantic States. It remains the foremost work of its kind.

We are indebted to the Audubon Naturalist Society for permission to present this work to our readers.

MORE ON NESTING BOX TEMPERATURES

Robert M. Patterson

During the summer of 1979 I ran temperature tests on 18 nesting boxes. The procedures used closely followed those established by Dr. Lawrence Zeleny in the preceding article. The purpose of these tests was to determine the temperature safety levels for a number of new nesting box designs not previously available to Dr. Zeleny. The new designs included experimental models being tested by Society members, several designs currently in use in various parts of the United States, and several designs under development by my mail order firm for possible production in 1980.

In discussing this project with Dr. Zeleny, I found that he had taken shade temperatures by placing a thermometer in the dense shade of a tree, near ground level, not too far from the test site where the nesting boxes were located. I took shade temperatures at two locations. The first was in the dense shade of my front porch, on the north side of my house. This site is subject to very little air movement and never receives direct sunlight. The second location was on the shaded side of one of the nesting boxes being tested. While this thermometer was actually in total shade, it was nevertheless in a much brighter location and much more responsive to the ambient air. This second location could be considered similar to the shady side of a power pole where a nesting box might be located.

Standard household thermometers were placed in each nesting box and were calibrated to the nearest ½°F with a thermometer which had undergone testing.
at Maryland University to determine its accuracy. Readings were taken on numerous occasions during July and August when the porch shade temperature was between 88°F and 92°F. A record was kept of the shade temperatures at both shade locations. Shade temperatures at the more exposed test site averaged 6.9°F higher than at the porch. The range of difference between the two locations was from 4-11°F. The average difference in temperature was 6.5°F between 11:30 and 1:00, 7.3°F between 1:00 and 2:30, and 6.7°F between 2:30 and 4:00. After 4:00 the difference was not as great.

**BOX CONSTRUCTION**

All nesting boxes were examined closely to make sure they were relatively tight in construction. All drainage holes were taped shut and any cracks at construction joints were sealed with masking tape. The only ventilation permitted was through the entrance hole and at points intended for ventilation by the box design.

With the exception of the PVC boxes and boxes numbered 10 and 11, all boxes were constructed of ¾ inch wood, either of pine or cedar. Box #10 was made of cypress that was from ¾ to ½-inch thick. Box number 11 was made of Atlantic White Cedar, and was of roughsawn material averaging nearly one inch in thickness. Box 11 was somewhat deeper in inside dimension than the others, while box number 10 was somewhat shallower. Otherwise all of the boxes were nearly the same in depth, having the standard 4” x 4” floor area. The six, eight and twelve-sided boxes had floor areas that ranged from 15 to 17 square inches.

Box number 2 was contributed by Joe Huber in Ohio, and was identical in design to the control box used by Dr. Zeleny in 1967 and 1968. This box differs from the Society’s current standard design only in that it has two ¾” diameter holes bored in the front for ventilation, whereas the current design lacks these holes. I found that the average temperature rise in this box when compared to porch shade temperature was 7.6°F, with the maximum difference recorded on any occasion being 13°F. This compares with Dr. Zeleny’s finding of an 8°F temperature rise in his tests. The average and maximum temperature rise figures for all boxes tested are given in Table 1.

During the testing period all boxes were faced in the same direction, either south or east. No significant difference was detected (½°F or more) due to direction of the entrance hole. At the time temperatures were recorded the wind speed and direction was noted. At no time was wind speed of over 10 mph observed. No significant affect on temperature was caused by wind. The test area was moderately sheltered by trees, my home and a fence. In more open locations wind speed would undoubtedly have some impact on nesting box temperature.

Boxes 3, 15 and 16 were of identical design. The average temperature rise for these boxes was 5.6, 7.4 and 6.9°F respectively, and the maximum temperature rise noted was 12, 9.5 and 9.5°F.

Boxes 9 and 17 also were identical to each other, but registered average temperature rise measurements of 5.4 and 7.4°F and maximum increases of 8 and 8.5°F. Likewise, boxes 5 and 6 were identical to each other but measured 6.6 and 6.2°F.

<table>
<thead>
<tr>
<th>Test Box Number</th>
<th>Average °F Increase</th>
<th>Maximum °F Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.6</td>
<td>7.0</td>
</tr>
<tr>
<td>2</td>
<td>7.6</td>
<td>13.0</td>
</tr>
<tr>
<td>3</td>
<td>5.6</td>
<td>12.0</td>
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<tr>
<td>4</td>
<td>5.3</td>
<td>9.0</td>
</tr>
<tr>
<td>5</td>
<td>6.6</td>
<td>10.0</td>
</tr>
<tr>
<td>6</td>
<td>6.2</td>
<td>11.0</td>
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<td>7</td>
<td>5.3</td>
<td>10.0</td>
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<tr>
<td>8</td>
<td>6.2</td>
<td>11.0</td>
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<td>6.9</td>
<td>9.5</td>
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<tr>
<td>17</td>
<td>7.4</td>
<td>8.5</td>
</tr>
<tr>
<td>18</td>
<td>10.0</td>
<td>13.5</td>
</tr>
</tbody>
</table>

*Table 1. Results of temperature tests of 18 nesting boxes showing average and maximum temperature rise within each box compared to dense porch shade temperature.*
The point that environmental factors other than nesting box design can play an important role in heating a nesting box should be kept in mind when selecting mounting locations. My guess is that a box mounted to an aluminum post may become warmer than a box mounted to a steel post, possibly by 1°F or more, and that either box would certainly become warmer than one mounted to a wood post or wire fence.

BOXES TESTED

1. Hexagonal Double-topped. Interior top had 2” diameter hole in flat surface with a second top mounted about ¼” above the first. Three of the six sides were elevated to support this upper roof, the alternate spacing of the sides providing generous room for air passage between the two tops. The tops were mounted flat. This box remains remarkably dry during heavy rain.

2. Described previously, the “Huber” box is identical to the design used by Dr. Zeleny for testing in 1967 and 1968. The 1979 tests gave similar results.

3. One of the Society’s standard designs with sloped roof and ventilation beneath the roof at either side.

4. Octagonal with flat roof. Ventilation was provided via two plastic ventilators of the type commonly used in home construction to vent roof overhangs or soffit areas. The ventilators fit a 1” diameter hole and were louvered to shed water.

5. Dodecagonal or twelve-sided box, double-topped. Ventilation was similar to that described for box number 1.

6. Identical to box number 5.

7. Hexagonal with flat roof. Side ventilation was provided similar to that described for box number 4.

8. Octagonal with flat roof, identical to box number 4.


10. Thin-walled Cypress box, supplied by trail operator in Mississippi. This was the “hottest” box tested, obviously due to insufficient insulative quality.
CONCLUSIONS

In earlier experiments conducted by Dr. Zeleny, temperature differences of up to 18°F were noted for various designs. This difference was mainly due to the effect of wood thickness and especially color. My tests were conducted with boxes made mostly of unfinished wood, and the range of difference I encountered was less than 7°F. My tests on boxes similar to those used by Dr. Zeleny provided nearly similar results.

There are many variables affecting temperature rise or heat gain in nesting boxes beyond the scope of this study. Among them may be the type of wood used to make the boxes (species, density, porosity, color). Reflected light from nearby surfaces (water, soil, crops, pavement) and conducted energy from adjacent mounting surfaces undoubtedly play a somewhat minor role that should not be overlooked.

The PVC Experimental design appears to experience a temperature rise nearly similar to unfinished ¾" wood nesting boxes. It was noted that this material gives off heat more rapidly than wood as the sun lowers although it does not heat up more rapidly than wood.

The Open-topped Experimental design experienced average and maximum heat elevations several degrees warmer than closed-top models, became warmer earlier in the day, and remained warmer in the late afternoon. It would appear that this design, when used in open sunny areas, may require the adult female to brood nestlings for longer periods during hot weather to prevent dehydration of her young, thus reducing the time available for food gathering and personal maintenance. This hypothesis, if proven true through field research, would suggest that the open-topped model should only be used in locations that are shaded from the midday sun, especially in areas that experience warmer summer temperatures than the test site.

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A MONTAGE OF DEFIANTS

TEN ACCOUNTS OF UNUSUAL BLUEBIRD BEHAVIOR

Ben Pinkowski

Despite the attempts of avian biologists to generalize about their subjects, individual birds often defy the stereotyped image painted in many ornithological treatises. Indeed, it is the bird far removed from its normal range or one building a nest totally unlike that characteristic of its species that attracts the attention and ignites the enthusiasm of amateur and professional ornithologist alike. By focusing on the unusual, we enhance our understanding of the more normal behaviors that have been selected by nature to characterize avian species and permit them to function in their so-called niches.

During recent studies of bluebirds I observed many unusual events, ten of which were so unexpected as to make me wonder how they could happen when the expected behaviors must be so important a part of the bird’s genetic directions. The ten accounts are summarized below in reverse order of how unusual I felt them to have been when they occurred. Gathering these summaries together made me realize how bluebirds, like people, are not all alike, and how variability, like stereotypy, must be an important ingredient in a bird’s struggle for survival. (Additional information can be found in the references following each account.)

10. White Christmas—Although it is generally known that bluebirds sometimes spend the night in nesting boxes or natural cavities during winter, surprisingly little is known about this behavior. For example, why do some birds roost at night in cavities while others, faced with nearly identical weather conditions and food supplies, select open roosting sites? Do individual birds roost in the same sites that were used for nesting? Do they use the same sites for roosting year after year, as they sometimes use the same sites for nesting in different seasons? I received a slight glimpse at the answers to some of these questions during the winter of 1973-1974, when two male Eastern Bluebirds, a father and his son, roosted in a nesting box about 1300 feet from the box in which the younger bird was reared during the previous summer. The two males became aggressive toward one another the following spring, when the older bird began nesting, and I assumed they would never be seen together again. To my surprise both males again roosted in this same box during the winter of 1974-1975. (Bird-Banding 47:160-161, 1976)

9. One Confused Peanut—I have never observed bluebirds feeding the young of any other species, though several such occurrences have been reported in the literature. During July 1979, however, I watched a male Pygmy Nuthatch feed a brood of Mountain Bluebird nestlings in Colorado. Both adult bluebirds were also feeding the young bluebirds, but they
displayed surprisingly little aggression toward the feeding nuthatch. A female nuthatch was incubating 7 nuthatch eggs in a second cavity barely 20 inches above the bluebird cavity. Openings of the two cavities were nearly identical in size, shape, and compass direction; this similarity may partly explain how the male nuthatch became confused, but the closeness of the nests probably allowed the bluebirds to stimulate the nuthatch to feed them and neglect its own nest. The nuthatch young died shortly after they hatched as the male nuthatch continued to feed only the young bluebirds. (MS in prep.)

8. Never Say Die—Bluebirds show varying amounts of what might be called perseverance in going about their nesting duties. Because they often abandon a territory or nest site after one or two nesting failures, though, it is uncommon to observe a large number of nesting attempts from a single individual in one season. During 1976 a color-banded male Eastern Bluebird was involved in 4 unsuccessful nests in 3 different nesting boxes in southeastern Michigan. Nests failed on 8 May, 31 May, 15 June, and 12 July. The late date of the fourth failure led me to expect no further nesting activity from this male, who already had equaled the maximum number of nesting attempts I had ever observed from a single bird in one season. Nevertheless, the male and his third mate of the season succeeded in fledging 3 young on 17 August. (Auk 96:562-572, 1979)

7. Food for Thought—The diet of bluebirds is varied and sometimes includes unusual food items. In Florida on 30 January 1973 I observed a pair of wintering Eastern Bluebirds feed on the seeds of penstemon, and a captive female Eastern Bluebird regularly ate the flowering heads of dandelions placed in her aviary. Among the more unusual animal prey types that I have seen taken by Eastern Bluebirds were millipedes, which reportedly are ignored by many songbirds, and fairy shrimp, which were obtained from small pools and ponds. Unquestionably, though, the single most unusual item I have ever recorded was a masked shrew captured and ingested by a male Eastern Bluebird in Michigan on 23 July 1973. Who says bluebirds feed on insects? (Wilson Bull. 86:83, 1974)

6. The Day-Care Center—During the first few days after fledging, adult bluebirds apparently cannot always tell their own young from those of other bluebirds. Therefore, mix-ups are possible, especially following the spring nesting period, when many of the young leave their nests at about the same time. During June 1975 I watched a male Eastern Bluebird regularly feed fledging bluebirds from two different broods—his own young and those of a pair occupying an adjacent territory. With little help from his current mate (who had commenced a new nest) and none from the rightful parents of his adopted family (the male was re-nesting with a new female after his first mate vanished), the male single-handedly raised all 7 fledglings to independence. (Bird-Banding 47:160-161, 1976)

5. Mr. Lucky—Bluebirds sometimes change mates during a nesting season, especially after unsuccessful nests, but only once have I seen an apparent mate change during the course of a nesting cycle. In 1977 the male of a pair of Eastern Bluebirds tending young in a nesting box in Michigan disappeared on about 21 May. I suspected that he was taken prey by an American Kestrel that regularly hunted the area. In any event, the male was immediately replaced by a new male that occasionally fed two surviving young, removed excreta, and chased off intruders. The male also courted the female, but she resisted his advances until the young were independent, at which time the pair commenced a new nest at the same site. By being in the right place at the right time the male gained certain limited resources (territory, mate, nest site) because he helped the female, who in turn obtained a new mate for nest site defense and an eventual second brood. (AUK 95:606-608, 1978)

4. For the Record—Color banded birds become, in a sense, part of the bander who monitors their fall departures, anxiously awaits their spring arrivals, and carefully checks their every nesting attempt for Sialia, Winter 1980
success or failure. Most banders consider themselves fortunate if a bird of known identity returns for more than 2 or 3 years. One adult male Eastern Bluebird that I color-banded in Michigan in 1973 became known as M1 and returned every season thereafter through 1977. During those 5 years I'm sure he established many new "career records" for bluebirds. Some samples might be:

Most nesting attempts .......... 14
Most successful nests ............ 10
Most young fledged .............. 36
Most years raising 2 broods ...... 5

(Jack-Pine Warbler 56:161-163, 1978)

3. Homeward Bound—Young bluebirds from early broods frequently feed their siblings raised later in the same season, but in their first breeding season most bluebirds establish territories and raise their own young. In Michigan during 1975 a yearling male Eastern Bluebird established a territory about one mile from his natal site and raised two young in a successful spring nest. In summer, however, he returned to his natal site in the company of his two juveniles (but not with his mate) and proceeded to feed the young of his parents, who were again nesting in the same site. Both family groups remained in the area into winter. (Auk 92:801-802, 1975)

2. The Lonely Vigil—On 3 July 1974, while checking a natural cavity Eastern Bluebird nest in Michigan, I was met with the usual protests of the male of the nesting pair. My mirrors indicated that the female had not flown in response to my approach, but instead had apparently remained in her normal position over the eggs. This was not at all helpful to me because I needed to make a count of the number of eggs. Not wanting to disturb the female further, I retreated to a secluded spot from which I could keep a careful watch for her departure. On several occasions the male arrived at the hole, sometimes with food, and occasionally he entered the cavity. The female did not emerge, however, so I again checked the cavity and found her position unchanged. As I removed her lifeless corpse I noted its fresh condition and 4 eggs beneath her, thinking that her death may have been related to the severe lightning and thunderstorms that had crossed the area the previous night. (Jack-pine Warbler 55:92-94, 1977)

1. Rocky Mountain High—The most unusual behavior I have ever observed among bluebirds occurred during June 1979, when I discovered that bluebirds may sometimes nest at much higher densities and much closer to one another than is generally thought. In a small grove of aspen trees in Park County, Colorado, two Mountain Bluebird nests were only 56 feet apart. They were, respectively 40 feet and 46 feet from a Western Bluebird nest. The grove measured 165 feet x 460 feet (1.75 acres) and contained four other Mountain Bluebird nests and one other Western Bluebird nest. Thus the overall density for this small area averaged slightly over 4.5 bluebird nests per acre. The same grove also contained 6 Tree Swallow nests, 1 Violet-green Swallow nest, and 1 House Wren nest; transient bluebirds—some in family groups—often wandered into the grove to feed. (MS in prep.)

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Product 35
PROFILE:  DR.
LAWRENCE
ZELENY
An Odyssey of Love

Jon Boone

A few weeks after Muhammad Ali lost his heavyweight title in February, 1978, I spent a few days visiting with my brother, Bob, at his home in Hagerstown, Maryland. The snow and the extreme cold of this western Maryland city conspired with the spectre of an aging Ali to deepen a growing sense of my own mortality. Perhaps realizing this, my brother suggested we take in the sights of a rather magical and 12 miles west of the city known as Polecats Hollow.

Polecats Hollow and I have become good friends over the years. My brother Dan placed a number of bluebird trails here. On this particular day the ice and snow melded together the mountains, lakes, meadows and sky, creating a stained glass window into a more perfect world. We saw a deer, then two, finally a half-dozen moving slowly down the slope of a nearby mountain toward a partly frozen stream. I stopped the car engine so as not to startle the deer. Time slowed as the temperature inside the car rushed to mate with the arctic air outside. The steam from our breathing caused a mild haze to settle around us. As the vapors cleared, our eyes fixed upon movement along a fence row not ten feet away. The movement ceased, revealing five of the most exquisite bluebirds I have ever seen. The blue and russet colors shone like precious gems against the backdrop of white and silver and gray.

For nearly one-half hour we watched silently as the birds and the deer struggled successfully for survival in this harsh terrain. Then a passing automobile careened by and the bluebirds were gone. Bob and I left soon thereafter, our lives somehow different and renewed, it is a vision forever imprinted on my mind, a portent of good things to come. It was a good year. Ali regained his title. Then Larry Zeleny, who was undoubtedly responsible for those bluebirds in Polecats Hollow, founded the North American Bluebird Society.

This prologue seems a fitting introduction to Larry. For the past dozen years he has been the champion for the cause of bluebird conservation. His trail in Beltsville, Maryland is a living monument to that cause. The hundreds of articles he has written on the subject, culminating in his book, The Bluebird: How You Can Help Its Fight For Survival, have motivated and counseled thousands of people across the continent. Perhaps he has lectured hundreds of times on his favorite subject,
giving informed answers with patient enthusiasm. However, although he is indeed a forerunner, a leader in the field of bluebird preservation, his fondest wish is to have others become leaders. His book's subtitle gives him away. He wants us to find our own Polecat Hollows, to establish our own trails, to monitor those trails, to experiment with prudence and, he hopes, to appreciate the beauty of the bluebird and its struggle to endure in our own way.

Larry was born in Minneapolis, Minnesota on April 30, 1904. He was second of two sons born to Anthony and Mattie Zeleny. As a professor of physics with the University of Minnesota, Anthony was hardly wealthy. But he gave his family a fine home on the bank of the Mississippi River, a beautiful garden and a legacy of community service and intellectual curiosity, all of which has served Larry well for the last 75 years.

However, when 14 months old, a diet of raw milk almost claimed Larry's life. The family physician prescribed plenty of fresh air and sunshine as remedy. Consequently, Larry spent much of his second summer in the back yard, confined to his baby buggy, watching for movement anywhere. His interest in birds may well have been the result of this experience. On the other hand, his interest in raw milk disappeared.

Minnesota's moderate summers compensate for the very long, very cold winters. At that time Minneapolis was not a large industrial center and there were open spaces and fields aplenty along the river. The automobile was a rare sight; in fact, Larry decided that horses were better because "they didn't make as much noise." Larry tilled the soil along with his father, and in his early teens won a city-wide competition for cultivating the best garden. He enjoyed the out-of-doors as much as possible.

When he was nine years old, Larry's Sunday school teacher announced a contest. The child who could identify the greatest number of birds would be awarded Chester A. Reed's classic pocket field guide. Characteristically Larry won easily, despite the fact he submitted two lists—one for the birds he saw in the city zoo, the other for those he saw in the field.

With his Reed field guide and his father's old Zeiss binoculars, Larry became more than passing fair as a young naturalist. And even as a child, Larry learned from his "mistakes." For example, in grade school, Larry crafted an immaculate nesting box for wrens and received a grade of A for his labors. A neighboring classmate threw together a few boards in loose fashion and received a "gentleman's D" for his nesting box. The next spring, both boys hoisted their boxes. Needless to say, the wrens chose the shanty house, while Larry's box went unoccupied. To this day, he recommends that nesting boxes need not be artfully constructed.

Like many other bluebird conservationists, Larry doesn't know what sparked his love for the species. During his youth, bluebirds were "always there," nourished by the Mississippi. Other people had bluebird boxes in the neighborhood, with bluebird tenants. By the time he entered high school, Larry, using a Department of Agriculture bulletin, was building his own bluebird houses. However, in one of his first boxes, Larry attracted the House Sparrow, which in turn was increasingly attracted to the area by Minnesota's ubiquitous granaries. Disturbed by this interloper, Larry wrote Joseph H. Dodson for a deluxe, six-dollar sparrow trap. He used the trap effectively for one year. He got bluebirds regularly afterward.

In high school, Larry's academic progress went as expected for the son of a physicist. He graduated in January, 1921, after being passed ahead several grades. He immediately entered the University of Minnesota's spring term, intent on majoring in mathematics. Before his graduation in 1925, three events occurred which affected irrevocably the course of Larry's future.

First, at the start of his junior year, he survived another life-threatening ordeal—encephalitis. However, the illness took its toll. Larry soon discovered his brain had been robbed of the ability to understand all but the simplest arithmetic functions. He was completely lost in higher math. Although he relearned much of what he had forgotten, his ability to conceptualize mathematically was gone forever. He
changed his major to chemistry, a compromise which allowed him to combine his respect for science with practical applications.

Secondly, Larry took a course in ornithology from Professor Thomas S. Roberts, author of the magnificent two-volume *The Birds of Minnesota*. The administration of the University at first adamantly opposed having its curricular offerings tainted with the subject of ornithology. But Dr. Roberts, a wealthy retired physician, was determined to teach such a course. He presented the administration with an offer they couldn’t refuse: he would teach the course for nothing.

The class was set. Larry enrolled. He felt right at home. He enjoyed the field trips, often to the best country clubs, trips which Dr. Roberts financed himself. But he especially enjoyed the long hours of consultation with Dr. Roberts.

Finally, there was a girl enrolled in that class, a science education major named Olive Lowen, and pretty Olive had an eye on Larry. She finally made the shy Zeleny kid notice her, and Olive and Larry soon became a team. They relaxed in each other’s company, having many common interests in wildlife conservation. Today, Olive insists she endured some of those long field trips more because of her interest in Larry than for the birds she might have seen.

Both Larry and Olive received their bachelor’s degrees the same year. Olive began her career as a teacher and Larry started graduate school at the University. He earned his M.S. in 1927 and his Ph.D. in biochemistry in 1930. Throughout these years the two stayed close. As soon as Larry completed his final degree, they married on June 19, 1930, six days after their engagement. For Larry, a veritable whirlwind courtship. For Olive, well, she claims Larry is a very practical man.

Larry had a fellowship with Northwest Paper company and was an agent for the U.S. Forest Service, studying the chemistry of coniferous seeds. But the great depression had taken firm root and Larry went nine months without work. Finally, he returned to the University for post-doctoral work. In 1933, a biochemistry professor mentioned that Minnesota Valley Canning Co. (now Green Giant) needed a chemist for its operation in Le Seuer, a small town west of Minneapolis. Larry applied for and got the job. He and Olive and their daughter Nancy, born in 1931, left for Le Seuer. Minnesota Valley paid Larry a lofty 150 dollars a month, which allowed the Zelenys to live as royalty, renting a magnificent house and retaining a maid to help while Olive gave birth to their second child, Bill, in 1934.

The depression had a profound effect on Larry. He has many poignant stories to tell of suffering, of sacrifice, of people helping other people survive, one day at a time. Then came the New Deal, offering people new hope, and things did get better. At least fewer people starved or scavenged for a piece of coal. The imagery of the depression is a common thread in Larry’s writings about the bluebird and perhaps explains his cautious optimism that people can come together with sufficient force enabling their common goals to triumph.

In any case, Larry carried on and in 1935 came to Washington, D.C., as an associate chemist to work for the Department of Agriculture. Starting salary: $3,200 per year. The Zelenys drove their tightly packed 1929 Chrysler from Minneapolis, rented a house in Takoma Park, Maryland for a little over three years, then, in 1939, moved to their present address in University Park.

Larry held various scientific and administrative positions with the Department of Agriculture, culminating in the position of Branch Chief of the Grain Division from 1943 until his retirement in 1966. During that time he authored or coauthored 62 technical papers in the general field of agricultural biochemistry. He helped develop internationally recognized procedures for evaluating the quality of cereal grains and oil-bearing seeds. In 1960 he was one of six members of a United States cultural exchange team invited to the Soviet Union, travelling 6,000 miles of Russian territory in little more than a month. He is a past president of the American Association of Cereal Chemists (1956-1957). He has received numerous professional awards and rightly so. He led a most distinguished professional career.
Today, his children are successful members of the community. His son, Bill, is a university educator in Monterey, California; his daughter, Nancy Zeleny Kuhn, works for an insurance firm in Rockville, Maryland. They have given Larry and Olive four grandchildren. The Zelenys live modestly but graciously. At any given time, expect to find two or three prize-winning poodles guarding their front door. Expect to find numerous birds around his large back-yard toiletage, complete, yes, with garden. And, of course, expect to find reminders of bluebird activity throughout, from his basement workshop where he continually tinkers with building a better nesting box, to the Richard Sloan autographed print, "Eastern Bluebird," he received from the Griggsville Nature Society. To a bluebirder, Larry's home is the North Pole on Christmas Eve.

How did it all start? The clues abound. He came from a marvelous family; he met T. S. Roberts; he married the right girl (their golden anniversary is less than six months away); he survived the great depression; he saw triumph in adversity; he became a respected scientist; and, he is a very practical man. But probably the best answer is that he is doing just what he would have been doing had he been independently wealthy. For this society has not chosen to subsidize heavily those working for bluebird conservation.

With the Department of Agriculture, Larry occupied an office for nearly 25 years on the grounds of the Beltsville Agricultural Research Center. There were quite a few bluebirds at the Center until 1950. But then came an invasion of Starlings and the bluebirds disappeared. Larry was concerned, but the press of business precluded his personal intervention. In 1955 he did place a nesting box on a pole outside his office window and monitored it constantly. Bluebirds became permanent tenants. But they were exceedingly scarce elsewhere on the spacious grounds of the Center, graced with habitat which should have been full of bluebirds.

With his retirement, he inherited that most-precious of all commodities. Time. He asked the Center's director for permission to place 13 nesting boxes around the area for the 1967 nesting season. Permission granted. At the same time he personally bought 144 nesting boxes and asked that they be placed around the state's parks. Permission granted. From his correspondence with Dr. T. E. Musselman, among others, he developed what he thought was a good nesting box design, with attention given to cavity size, insulation, ventilation and drainage. That design, with little modification, endures to this day.

The parks project was aborted due to human vandalism. The Beltsville "trail," which had the official sanction of the Audubon Naturalist Society of the Central Atlantic States as a research project, successfully fledged 20 bluebirds in its first year. As a result, Larry increased the trail twofold the following year and fledged more than 80 young.

In this same year, 1968, Larry learned about a newly formed group, The National Association for the Protection and Propagation of the Purple Martins and Bluebirds of America. He joined the organization, then journeyed to Illinois for a meeting with the group. The folks there put him in charge of bluebird protection. Whereupon Larry proposed to write a booklet about the subject. Again, he secured approval and the result was a beautifully rendered handbook, which Olive entitled Bluebirds for Posterity. It sold thousands of copies and is now out of print. It should be brought back.

With Bluebirds for Posterity, Larry established his potential. Later in 1969, Larry took over Dr. Musselman's popular column in the Purple Martin News (now the Nature Society News). He has since written 124 columns for that publication, in the process developing a correspondence with thousands of people. Col. B. J. Walrath exemplifies the response: "Your writings were solely responsible for awakening my own interest in bluebird conservation."

One step after another followed rapid fire. He was elected President of the Maryland Ornithological Society. He became a member of the board of directors of the Audubon Naturalist Society. He serves as a consultant for Camp Fire Girls, Inc., etc. All of these positions demonstrated his popularity. More importantly, they gave him a forum to
reach larger numbers of people. He became convinced that bluebirds could be helped only by many people, tens of thousands, working in small groups or as individuals, each informed as to the nature of the bluebirds' problems, and armed with a general plan for coping with them. When he writes or talks about bluebirds, he does so in the simplest language possible, making sure that everyone understands his message, cutting through age and class distinctions.

People received his message on local radio and television programs. They picked it up in newspaper articles, in magazines ranging from Living Wilderness to Exxon, U.S.A. They have it from his book, published in 1976. Then in June 1977, National Geographic featured his article “Song of Hope for the Bluebird,” punctuating it with the stunning bluebird photographs taken by his good friend Michael L. Smith. The volume of mail he received attendant to that article was overwhelming, even for Larry.

He called in a few friends to discuss the situation and—the North American Bluebird Society came about.

There is much to say about this remarkable man, and not nearly enough space. In Who's Who in America, he lists himself as “wildlife conservationist and writer.” He is that. But much more. He has awards for his conservation work from numerous organizations, most notably from the Patuxent Group of the Sierra Club and the Audubon Naturalist Society. He has his family and legions of genuine friends. A few miles up the road he can visit his beloved bluebirds just about any day of the year. He takes no money for his conservation work and donates receipts from the sale of his book to the Society.

Those of us who have personal knowledge of Little Brother and Little Sister—even those who have read his account of these hand-raised bluebirds—know that his love for bluebirds is real. He uses the word love a lot. It is not a word that comes easily from men in this culture. When asked about his courtship with Olive, he responds with a simple explanation: “We fell in love.” He dedicated his book to Olive, hearkening back to their ornithology class in Minnesota, “where we fell in love with

birds and with each other.”

When Larry and I discussed the text for the Society's color brochure, “Where Have All the Bluebirds Gone?,” Larry wished the first sentence to read, “We celebrate the beautiful bluebird as a symbol of love, hope and happiness.” Because I thought the sentiment a bit maudlin, I deleted the word “love.” It was a mistake.

From the beginning, it was the reason this decent and learned man is involved.

With this Profile I must step away from Sialia. The five men whom I've chronicled—John Lane, Bill Highhouse, T.E. Musselman, Bill Duncan and Larry Zeleny—are or were leaders, starting out as little boys from Middletown, U.S.A., just trying to be somebady special. They all succeeded. It has been a great privilege getting to know them and attempting to translate that knowledge to you.

Thank you for your support of Sialia. A special thanks to the Society’s board of directors for putting up with me, and to Bob Patterson who brought it all together. To my dear wife, Ann, who granted me a two-year sabbatical from my family to pursue this extracurricular activity, a message: I’m coming home for a while.

Jon Boone

Sialia, Winter 1980
Happiness is—watching a pair of Western Bluebirds raise their family in our mountain home front yard. We have witnessed that happy event every Spring since 1974, prompting our joyful shout, "THE BLUEBIRDS ARE HERE!"

Upon retirement in 1970 we settled on two acres at the 4,100 foot level of the western slope of the Cascade Mountains, some thirteen miles west of Lassen Volcanic National Park, where beautiful Mt. Lassen is located. We live in Shasta County, four miles west of the little community of Shingletown, which derived its name from Shingle Mill (The Klotz Mill) where cedar shingles, as well as doors and sash, were manufactured as early as 1853.

For several years we were busy building our home, planting, fencing and tending our large organic garden, leaving little time to enjoy the abundant wildlife. We had only an occasional glimpse of the bluebird. But finally, in April 1974, my enterprising husband, Charlie, planted a robust five-foot cedar log, complete with natural woodpecker nesting hole and slanting roof. In about an hour a winged blue streak zoomed into our yard, wheeled around the log, inspected the hole inside and out, perched on the roof, observing the terrain. He vanished, but soon returned, followed by a lighter blue streak. Together, with gleeful honeymoon flutterings of wings and joyful sounds, the bluebirds took possession of their new home.

Since Charlie's log was only 50 feet from our house, we watched, fascinated. The pair worked diligently, carrying long, thin strips of cedar bark which trailed behind them for a foot or more. They managed, after several very comical attempts, to drag those furnishings into the nesting cavity. That first year they raised four little ones successfully.
We have now developed a rapport with many species of birds, squirrels, chipmunks, brush and jack rabbits and an occasional coyote—all of which live near our mountain home. Of them all, the bluebirds are our favorites. From close observation we believe it may be hard to surpass their gentleness, especially the tender care they show their young. Yet, they are fierce when protecting the nest against predators. It was not unusual to see “Mama” and “Papa,” as we called them, buzzing a hastily retreating squirrel that ventured too close to their nest, causing that creature to arch its tail over its back and dive for protection.

During the nesting seasons that followed, we placed three more nesting logs around our yard, none farther away than 100 feet from our front door and not much more than 25 feet from each other. We didn’t know until we read Dr. Zeleny’s article in the June 1977 issue of the National Geographic that bluebird territorial preferences suggest that nesting structures be placed at least 100 yards apart. However, the nesting logs are all now in place and we are not planning to change them around. Even so, at least one pair of bluebirds has nested in one of the boxes each year. We believe, except for 1979, they were the same Mama and Papa that first arrived in 1974, as they look and act like the original pair and displayed the same friendliness.

If anyone had told me I would some day hold a bluebird in my hands, I would hardly have believed him. But in the Spring of 1977, I did just that. It was not a voluntary act on Papa’s part, although I gave thanks many times that I was there, at that crucial moment, for the “close encounter” that involved us both.

On that dark, misty morning Papa had apparently mistaken the sky’s reflection against our front window for the wide-open spaces, and crashed into the glass with appalling force, falling into leaves on the ground under the planter box. Rushing to his inert form and scooping him into my hands, I breathed on him gently to warm his small body. His eyes were glazed and his breathing was jerky and irregular. After what seemed an eternity, he finally became alert and watched me intently. Strangely, he showed no fear. I had time to admire his lovely azure color, along with his rusty breast and “V” on his back. I thought to myself, to paraphrase an old saying, “This bird in hand is worth many in the bush.”

It took a few minutes before he recovered completely. Then he flew onto a branch above me. At the same time I saw Mama, who had probably witnessed the whole episode from a nearby tree. Papa flew quickly to her, and we were truly amazed as he proved three or four times that he was still the same loving and able Papa and that their family would remain intact. That Spring they raised not one but two families, almost simultaneously in two of Charlie’s log houses that were within 50 feet of each other in our front yard. They fed the first family while building a nest for their second one. A total of seven nestlings were successfully raised in the two nests.

In 1978 we watched bluebirds feeding four little ones in their newest house in our front yard. What a rewarding sight to see bluebirds drinking at our fountain during
the hot summer months—and sometimes all year around. Many times we have seen thirty or more bluebirds flying over and around our house. We like to think many of them are those raised here over the six last nesting seasons, and that perhaps many are.

Our 1979 bluebird nesting activity was puzzling and disappointing. No bluebirds were fledged in any of our nesting logs. The winter was colder and there was more snow than usual, close to three feet on one occasion. Yet the bluebirds were sighted here and there all winter. In past years bluebirds began nesting in early April, with both the male and female (the custom, apparently, in these parts) contributing to the building of the nest. However, this year they did not begin construction until May 11.

At about the time the female seemed to be brooding her eggs, the male, for about a two-day period, became alarmed and anxious, sitting on the perch of the nesting enclosure and calling to his mate. Finally, upon lifting the roof, Charlie found a perfectly formed nest and six cold-as-ice eggs. Believing the female would return, we waited apprehensively for a while. Then, deciding she wouldn’t return, Charlie buried the eggs, nest and all, under the St. Francis shrine in our garden.

Two days later another pair of bluebirds appeared. While the male could have been the same one, the female looked and acted differently from the first one. They took up residence in a nearby log nest, about 25 feet distant from the original nesting site.

The female built the second nest completely by herself, which for here is most unusual. The male hung around a lot of the time, and I noted that once he even pushed the female from the perch into the nesting cavity, as if prodding her to “get going.”

The pair settled into what seemed to be the usual round of activities, the female apparently laying her egg-a-day, then brooding them, the male hanging around close for protection and companionship. Time went by, and no sounds of young being fed—and inspection by Charlie showed there was a perfectly-formed nest.

in the log cavity, but NOT A SINGLE EGG IN IT! There was no evidence at all of predation. Charlie had placed a 20-inch wide strip of tin clear around the log to prevent cats and other predators from climbing up the log to the nest. (not greased). The only types of snakes found at this elevation (4,100 feet) is the small garter snake, of which we have seen but one or two in the past year or so, and none in the area of the bluebird logs. We have noted no predatory birds here, except an occasional Bluejay, and the nests appear to be too deep for them to reach, and hole too small for them to enter.

Last year, and particularly this year, there has been a noticeable change in weather pattern. The healthy oak trees have failed to produce acorns both years, which is unusual for this area. We have noted almost a total absence of the usual insects of all kinds in the area. This we feel could be the reason for the bluebirds unusual behavior, possibly realizing they would have insufficient food to raise their brood.

Any comments from you and other members who may have experienced similar problems would certainly be welcomed.

A natural cavity nesting log for Western Bluebirds fashioned by Charles Braun. The post has been wrapped with sheet metal to guard against predators.
THE GOLF COURSE:
An Ideal Place For A Bluebird Trail

H. George Hausch

It was the sight of my first Eastern Bluebird curiously exploring the pipe holes on the backyard swingset that I must credit for awakening my senses, opening my eyes and ears, and introducing me to the most satisfying activity of birding. That experience in 1973 was followed by four seasons of successful bluebird nestings in a box on the corner of the garage at our home in the Northern Virginia community of Sugarland Run. The first warm days of spring came to mean sleeping with open windows, waking to the soft, plaintive warble of the returning bluebirds, and the anticipation of their nesting.

As my eager efforts to expand nesting box activities in the area became thwarted repeatedly by unsuitable habitat or vandalism, the grassy expanse of the golf course at nearby Algonkian Regional Park presented the lure of an obvious solution to these problems. The mere fact that I had heard bluebirds on one of my many outings to the park appeared to make an attempt at a nesting trail worthwhile. An initial telephone inquiry found John Harrison, the park manager, enthusiastic about initiating naturalist activities but cautious about involving the golf course. I stubbornly but courteously persisted in allaying the primary concern that the boxes would interfere with mowing operations, pointing to the ratio of hundreds of trees to relatively few boxes. Also, although it was never verbalized, there may have been a concern that if golf course operations in some way adversely affected the outcome of the nestings, it would be taken as a reflection on golf and golfers. My assurance that ten boxes would be initially placed on a trial bases and moved if any difficulty resulted, finally gained me permission from Danny Engels, the golf course superintendent, to proceed.

I decided that predator control would be easier if the boxes were mounted on metal pipes. These were obtained at reasonable cost at a local scrap metal dealer. I built the standard, top opening, extra-deep boxes out of ¾ inch exterior grade plywood. Each top was secured with a hex-head bolt which screwed into a T-nut fastened to the front board by wood screws. I considered the bolt-nut arrangement superior to wood screws for repeated box entry, and the hex-head would discourage tampering by unwanted individuals. The boxes were mounted on the pipes by U-bolts. Raccoon guards at the entrance holes and grease on the pipes were used to deter depredation.

In February 1978 my wife Jane and I were trudging across a snow-covered golf course placing pipes here and there. As the snow melted, our fears of having placed a box in the middle of the forbidden greens or fairways, or having hit an underground water pipe, were allevied. Each box appeared nicely out of the way of normal golfer traffic.

Reward came in mid-April when on the first monitoring, one nest was already completed. The first season's results were encouraging—7 of 10 boxes utilized by 6 pairs for 10 nestings resulting in 33 fledglings. Even more outstanding was that all nestings appeared successful without any known depredation or vandalism. The increase in number of boxes to 20 during the 1979 season produced even more phenomenal results. Eleven pairs utilized 12 boxes for 19 nestings to produce 85 fledglings. Another six boxes were inhabited by Tree Swallows, House Wrens and Carolina Chickadees. With the exception of a chickadee nest having been disturbed by humans and another wren nest deserted, there were again no significant problems due to depredation or

Sialia, Winter 1980
vandalism. The use of herbicides to control grass growth around trees, and pesticides (Sevin) on the greens, gave me concern as to possible untoward effects on the bluebirds. However, none were apparent except possibly in the case of one pair of bluebirds that had an unusually high number of unhatched eggs. In order to obviate the use of herbicides near my boxes, I kept the grass trimmed around the supporting pipes.

Although I usually planned my monitoring activity for dawn to avoid the logistics of traversing active fairways, I soon learned that some golfers also are early risers. This presented little difficulty, however; because of my respect for the golfers' first rights, I was never hit by a ball nor was a golfer ever visibly annoyed with my activity. Some, in fact, showed considerable interest in what I was about and the success of the project. A few even expressed appreciation at having seen the first bluebirds in years.

My experience shows that golf courses hold great potential for the development of bluebird nesting trails. I wish that I had the time and resources to expand to another nearby golf course. However, in the coming spring I will have to be satisfied to increase the existing trail to 30 boxes. Hopefully, this will avert competition from an anticipated growing population of Tree Swallows.

Yes, it has been worthwhile. Early one September morning I watched with self-satisfaction as one bluebird after another descended from the golf course trees to feed in the field adjoining the Potomac River. They kept coming and I lost count somewhere around one hundred. Where on occasion this field had been covered with Starlings, blackbirds, and grackles, at that moment the bluebird was the predominant species. It was one of those rare experiences; bursting with excitement, one is tempted to take that one step into an ego trip, telling that man walking his dog, or the fisherman launching his boat “see all those birds? They’re my bluebirds.” Ah, but no matter...

ACKNOWLEDGEMENT

I became acquainted with the Eastern Bluebird on our Michigan farm when I was a boy of 10. I found that they were nesting in the wooden fence posts where Downy Woodpeckers had previously nested along the borders of the different fields. Most of the holes were about four feet above ground. Occasionally they nested in the larger flicker holes which were placed most often in the larger anchor posts near the gates or the ends of the fields. Because the bluebirds used these so often I made about 20 bird houses, designed from the plans furnished by the National Audubon Society. I placed about 20 of them on posts at the same height the Downy Woodpeckers had nested, about four feet above ground scattering them around the entire 80 acres where the fences were in the open. In 1919 my father bought another 60 acre farm and soon I had a line of bird houses around this too. The first bluebird came back in 1918 on 28 February and I found the first 3 March 1919; 14 March 1920; 2 March 1921; 22 February 1922. During this time I kept records of nests and after 1918 how they fared. I also found quite a few nests in neighboring farms in woodpecker holes in dead apple tree branches in old orchards and more in woodpecker holes in fence posts along the edges of farmed fields.

The first record of a nest I have at hand was when 5 young fledged from a fence.

Sialia, Winter 1980
post nest in May 1918. That was the only record kept that year. But the next year, 1919, I found 14 nests between 13 April and 10 July. Three were in one bird house where 4 nestlings fledged 20 May; 4 more on 4 July then the female was killed by some predator on 10 July. Ten other nests were successful from which 36 nestlings fledged so during the summer of 1919 11 of 14 nests were successful and from these 11 nests 44 young fledged. These nests were all in Convis Township, Calhoun County, except one which was in a bird house we had erected at my grandfather’s house in Bellevue, Eaton County where I was attending high school. The dates the nestlings fledged and the number follow: 14 May, 5; 14 May, 4; 20 May, 4; 15 June (4 nests), (one was at Bellevue), 5, 4, 4, 4 young; 4 July, 4; 14 July, 4; 15 July, 3; 28 July, 3.

In 1920 bluebirds did not have as good luck. Only 7 of 11 nests fledged nestlings and the Bellevue female was killed by a predator in July with the result her four nestlings also died. But other nestlings fledged as follows: 25 May, 3; 1 June, 5; 11 June, 5 (at Bellevue); 2 July, 4; 3 July, 2; 20 July, 4 and 22 August, 4 young. Thus from 48 eggs, 27 nestlings fledged (56.25 per cent).

My 1921 records listed only successful nests, seven of which were fortunate: 31 May, 3; 5 June, 4; 7 June, 5; 7 June, 4; 3 July, 4; 12 July, 5 and 14 July, 4 young fledged and all were from bird house nests.

During 1922, 16 nests were found, nine of which were in bird houses. Only three of the bird house nests were successful while five of the remaining seven nests succeeded. Only 26 young fledged from 66 eggs (39.39 percent) as follows: 23 May, 3; 24 May, 1; 26 May, 5; 5 June, 3; 5 June, 4; 5 June, 3; 28 June, 3; and 12 July, 4.

Although I was away working in 1923 I found seven nests of which six (85.71 per cent) were successful. Five of the successful nests were in bird houses, the sixth in a post. Another post nest was lost to predation. From 32 eggs, 24 young fledged (75 percent) as follows: 1 June (2 nests), 4, 4; 2 June, 5; early July, 3; 12 July, 4 and 31

July, 4. In 1924 I was still working but found four nests in bird houses of which three were successful. From 19 eggs 12 nestlings fledged (63.16 per cent). During 1925, when I was in college, I found only two bird house nests with two and five eggs and both met with failure.

Thus from 1918 through 1925 I observed 62 bluebird nests of which 43 were successful (69.35 percent). There could have been two other nests that met with failure. But in these 62 nests there were at least 265 eggs (mean, 4.27 eggs per nest) from which 167 nestlings fledged (63 percent). I found that nests placed at higher elevations such as apple tree branches were more successful than those in bird houses and fence posts at four feet above ground. Those in fence posts and bird houses had almost identical success. Of 37 nests in bird houses 25 were successful (67.57 per cent). In these 37 nests 164 eggs were laid of which 96 nestlings fledged (58.54 percent). From 18 fence post nests young fledged from 11 (61.11 percent) and from 72 eggs, 42 nestlings fledged (58.33 percent). All seven apple tree nests were successful and from 29+ eggs, 29 nestlings fledged. Apparently the real enemies were house cats and possibly snakes. I found snakes (pilot and spotted adder) devouring young Prothonotary Warblers and House Wren eggs respectively. There were also many more blue racers and garter snakes then, and all the neighbors had four or five or more free running cats.

A few years later a bluebird nested in one of the prothonotary houses over the edge of the Battle Creek River. If I had not happened to be there the day one of the nestlings fledged it would have drowned. It was helpless when it landed in the river. In contrast young prothonotaries when fledging swiftly skittered across the water to the safety of shore or some tree branch. My Birds of the Battle Creek, Calhoun County, Michigan Area give much more detail on both of these species (Microfilmed 1978 by University Microfilms International, 300 Zeeb Road, Ann Arbor, Michigan, Research LDOO251, Xerograph copies).
VIRGINIA'S BLUEBIRD HIGHWAY

Myriam P. Moore
101 Columbia Ave.
Lynchburg, VA 24503

On bare limbs catching the first rays of sunlight, I saw five Bluebirds..." Yu Lee Lerner

Similar Christmas Bird Count experiences might be fondly recalled by almost any of the participants in the December 16, 1978 Lynchburg count, when nine field parties tallied a total of 182 Eastern Bluebirds.

The annual Lynchburg Christmas Bird Count (CBC) is held within a circular area 15 miles in diameter which has undergone profound changes in urban growth since the CBC territory was mapped out in 1927. It includes the entire bustling city of Lynchburg with adjacent heavily populated areas. Only around its fringes and within green islands such as the random location of a campus, golf course, park or cemetery may it provide, does it offer bluebird habitat.

The question: how did 182 bluebirds get into this picture?

The answer: nestbox projects of the Lynchburg Bird Club, since 1962.

It had its beginnings in the two severe winters of 1960 and 1961 and the critical deep spring snows occurring after our already dwindled populations of Eastern Bluebirds had eggs or young in the nest. Our bluebirds were decimated. On our Lynchburg CBC in 1960 we found one bluebird; in 1961 none. The message was clear: get to work!

Our first 25 nesting boxes were constructed and painted by our members and sold to individuals (with tips on putting them out) and the profit used to purchase materials for the next 25 boxes, and so on, building up our resources. Some of us carried nesting boxes, nails and hammer in our cars at all times, so that in the rare event a bluebird was spotted anywhere in central Virginia we would stop and nail up a box. Since it was a challenge to find a bluebird anywhere in the area, little thought was given to our CBC territory and our boxes went up in more rural habitat, outside our count circle. Later, as populations increased, more boxes were placed closer in, in suburban residential areas. We "led them in," so to speak.

In the early days our pioneers in bluebird housing were Arey Bailey, James Wiltshire, and the late Hugh Garrison. Presently, Thomas Drumheller, Wyatt Murphy and James Carter stand out among the faithful. Among our members who have learned to speak bluebird language fluently, a number give programs on the bluebird to area garden clubs and similar groups. A bluebird is pictured on the emblem of the Lynchburg Bird Club and our newsletter is named The Bluebird. In 17 years, dedicated bluebirders develop!

Untold hundreds of bluebird nesting boxes were placed through the Lynchburg Bird Club. Whether made of scrounged scrap lumber or special purchases of material, all are trimly constructed and painted. Our current model is a Musselman design cleverly modified by Drumheller, our chief of construction. It features a front (instead of top) opening, for ease in inspecting, cleaning and photographing. We use enough boxes to maintain our trails, then sell the remainder to maintain our treasury. We feel it is of paramount importance to draw the public into the project as much as possible, and inspire individuals outside the club to put up more and more boxes for our expanding bluebird population.

In 1969 the bluebird story was dramatized and considerable publicity generated by establishing the Roanoke-Lynchburg Bluebird Highway. Cooperating with the Roanoke Valley Bird Club, bluebird nesting boxes were erected to

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link our two cities. Raymond Harper of Roanoke and Wyatt Murphy of Lynchburg were especially active and dedicated workers to get this project going. Careful plans were made to locate the “highway” off the main traffic routes, or quieter byways. By the spring of 1970 the first step of the project was completed—nesting boxes one mile apart were installed, the linkage complete and ready for the 1970 nesting season. Plans included phases to follow: gradual filling in of the spaces between boxes to achieve a highway of boxes ½ mile apart, then ¼ mile apart as our bluebird populations grew.

It worked well. Our report for 1971 indicates that of Roanoke’s 60 boxes, 46 were used by bluebirds, with 21 accommodating second broods and 7 boxes third broods. A total of 227 bluebirds were fledged. In the Lynchburg sector, in 1971, of 88 boxes, 45 were occupied by bluebirds, generally for two broods, with 248 bluebirds fledged. A total of 475 bluebirds were produced by our “highway” project, so soon after its beginning.

Who could foretell that one of our quiet “byways” would in time become a heavily traveled road, thundering with traffic plying between Lynchburg and the newly available recreational area at Smith Mountain Lake? The Lynchburg section of the bluebird highway had to be relocated to an area more suitable for bluebirds and trail maintenance. Today, by devious ways, twisting and turning with the aid of a well-marked map, one can still travel this section of the highway but few except bluebirds find it. Perhaps that is all to the good, for 1979 was counted as a good year although the final report on the Lynchburg section is not available. John and Marion Eddy, present caretakers of the Roanoke Valley Bird Club’s trails, have reported a total of 295 bluebirds fledged from their section.

We have enjoyed learning the gentle bluebird language and can “converse” well enough with a patient female bluebird as we perform chores around her home. As we search for answers to some hard questions, however, we find we need ever more fluency and knowledge.

When we ask a bluebird whether we are bound forever to a population limited to the capacity of a closely monitored trail of nesting boxes, a bluebird population dependent upon the regularity of weekly care and supervision, what is the answer?

The data derived from our Christmas Bird Count each December and our Breeding Bird Count each June tell us that our bluebird trails have been successful. Our peak count of 316 bluebirds on our 1976 CBC was taken just prior to the onslaught of vicious winter weather which reduced us to 167 bluebirds listed for our 1977 CBC. This climbed back to 182 in 1978, despite the fact that a second terrible winter was endured. Our count data strongly suggests that there are a fair number more bluebirds in our area now than were produced on our trails.

It is evident that our local home owners have done a good job in putting up bluebird nesting boxes and that bluebirds are using them successfully. Is the conclusion justified, that in some ways the wide lawns of residential suburbia may be more favorable habitat for bluebirds than strictly rural, agricultural areas—less exposure to pesticides, snakes, raccoons perhaps? (But who will bell the cat?)

One thing the bluebird has clearly told us is that expanding populations will continue to need more and more and more housing. Get those boxes out! For the rest of the hard questions, we keep tuned in and listening for their answers.

Table 1. Record of bluebirds on Lynchburg, VA Christmas Bird Counts, 1967-1978. Party-hours adjusted to eliminate night hours searching for owls.

<table>
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<th>Bluebirds Counted</th>
<th>Ave. per 10 P/h</th>
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<td>7</td>
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<tr>
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<td>49</td>
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<tr>
<td>1978</td>
<td>99</td>
<td>182</td>
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</table>
Dear Editor:

My interest in working with bluebirds came about quite by accident. 5 years ago we had a severe spring storm the early part of April that destroyed many migrating birds. I own a cabin about 60 miles from Ronan at St. Regis, Montana. This storm finally receded between my home and St. Regis. When we visited our cabin, the river bottom country was swarming with bluebirds, primarily Mountain Bluebirds.

They seemed to realize they were against a storm front and held up their migration. Many trees looked like Christmas trees lighted with blue bulbs!! They remained in our area for ten days, the weather cleared, and they were gone.

I had not seen a bluebird in the previous ten years and was so thrilled by it all, that I carefully searched mornings and evenings, 35 road miles to see if any of that mass of birds nested. I found one pair only.

Then the quest began for a house they would use. I found a man who had plans for a bluebird house, and built five for the next spring. In short, after several years and about 1,000 nesting boxes mounted, bluebird production in this area was well over 200 fledged during 1979.

I joined the North American Bluebird Society and found we have been making many mistakes but now know how to correct some of them. Great organization! Let’s keep it as simple as possible and it will continue to do its job as intended. SIALIA is a fine publication with good ideas.

Materials are plentiful in this area and I plan to have 600 to 1,000 boxes available each spring. I want to expand into areas near here. I would be happy to be a speaker for Western Montana and need your slide presentation.

Art Aylesworth
Ronan, Montana

Dear Mr. Aylesworth:

Your imagery of a bluebird Christmas tree is a delight. Would that some inspired graphic artist capture it. Regretfully, the slide show was delayed in production, but should be available by the time you read this.

Since I excerpted from your letter, our readers were given only a glimpse of your remarkable enterprise. They should be assured those efforts are considerable. This spring, Ronan should be a sight for sore, bluebirding eyes.

Dear Editor:

For many years my family and I have been interested in birds, and especially the bluebirds. We have a bluebird trail on our farm and have enjoyed the results.

As State Bird Chairman for the Garden Club of South Carolina I am very much interested in establishing a bluebird trail from the mountains to the coast in South Carolina along Interstate 26 on fence posts, approximately 200 miles. Any information or advice regarding this would be appreciated.

Also, do you have programs for rent? I am also program chairman for the Piedmont Audubon Chapter.

Lavana Pitts
North Myrtle Beach, South Carolina
Dear Mrs. Pitts:

Garden clubs can—and should—be a very strong force in the cause of bluebird conservation. I am very pleased with your interest, for South Carolina is one of my favorite places. I hope to visit McClellanville in March and will try to establish further contact with you at that time.

Your trail project is an ambitious one. At a minimum it will require a thousand boxes. These boxes may be obtained in a variety of ways. The article about Virginia’s bluebird highway in this issue of Sialia will provide you with some ideas. The Society’s publication, “Suggestions for Organizing a Save the Bluebird Committee” will give you many others. With careful planning, your notion could give new life to thousands of bluebirds and provide hundreds of people with a pleasant way to spend an afternoon once every week or so.

We’ll be sending you information about the Society’s slide program and the names of South Carolinians who are members of the Society’s speaker bureau. Your part of the country (Southern Piedmont) is today the stronghold of the Eastern Bluebird population according to the latest Breeding Bird Survey reports.

Good luck in your efforts to expand this population for all of us.

Dear Editor:

Enclosed please find our nesting box record cards. Our small bluebird trail was established in one area of about 250 acres of the 12,000 acres of the Colliers Mills Wildlife Management Area, owned and managed by the New Jersey Division of Fish, Game and Shellfisheries. This Division is a part of the New Jersey Department of Environmental Protection.

The Colliers Mills area is used primarily for hunting and fishing activities, and very few people enter the area of our bluebird trail during the March-September period.

All of the 45 fledged bluebirds were banded between eight and twelve days of age, with no problems. Each or our bluebird nesting boxes was painted a dull, dead grass color (olive drab) to lessen visibility. Several extra upward angled ¼” holes were drilled in the upper sections of the back of the boxes for a little extra ventilation. Inspections on very hot days of up to 95°F showed no signs of heat distress due to the dull colored boxes absorbing the sunlight.

The undersigned are both employed by the New Jersey Division of Fish, Game and Shellfisheries, but this bluebird trail was not directly connected with the Division in any way, other than allowing us the use of the state-owned land and their complete, but unofficial, support.

Thomas J. Mulvey
Acting Chief Conservation Officer
Joan Galli
Zoologist

Dear Mr. Mulvey and Ms. Galli:

The Society is only now beginning to sort out the nesting box record cards received from scores of people around the continent. In thanking you for your cards, I extend thanks to all who have participated thus far.

The example you have set in establishing a bluebird trail at Colliers Mills may motivate others to do the same. Many wildlife management areas provide excellent habitat for bluebirds. The State of Maryland has recently informed us that they are targeting 10 to 15 management areas for bluebird trails this year and will welcome the cooperation of Society members in assisting with site selection and monitoring of nesting boxes.

We caution folks who may contemplate trails in wildlife management areas to place nesting boxes somewhat away from woodlines. Otherwise, House Wrens will take over. In some management areas vandalism may be a persistent problem. A little patience, combined with regular monitoring, however, should encourage the bluebird to become a permanent tenant.

Dear Editor:

I have just returned from the second annual meeting of the North American Bluebird Society. It was a most enjoyable and informative gathering—a get-together where love for the bluebird and enthusiasm for increasing its population reenacted the normally depressing rain into its proper place of an ignored and trivial nuisance.

But it wasn’t the rain that gave me this feeling of all’s not right with the world. Could we be getting just a bit too preoccupied with science at the risk of losing sight of the more simple ways we might use for helping our bluebirds? Can’t I love bluebirds and sparrows and Tree Swallows all at the same time? Experiments with placement of Tree Swallow boxes and bluebird boxes certainly is worthy of research and harms
nary a feather.

Banding distresses me because I’m torn between two fundamental beliefs: one tells me that banding benefits the entire bluebird population; the other insists that the fright engendered and the possible harm done make banding a questionable necessity. If I band an incredible number of terrified bluebirds, can I honestly say (and I insist on deep soul-searching) without a qualm, that I am doing this for the sake of the bluebird? Could there possibly be an underlying hint of self-gratification and human pride as those numbers of banded birds edge higher on my bander’s graph? Does the knowledge of just which baby of last year returned to the original nest really mean so much in our effort to increase the bluebird population that it warrants the very real possibility of harm to that nest and its quaking occupants? Success, of course, entitles the small bird to its metal anklet, forever man’s adornment, above its small claws.

I am not anti-science. I see the value of banding...but let’s not get carried away! And, really, is it of value to our threatened bluebird when children are encouraged to handle the small nestlings entrapped in the huge hand of that naturalist bander? Firm believer that I am in encouraging the little humans to love the little feathered friends, certainly there must be a better way! As a teacher, I realize that the children will love me for introducing them to the thrill of handling that small bundle of terror. But what does that tiny bird feel?

Then we have the experiment of testing the reactions of a wild bird when confronted by the hawk. In recording this abstract and academic theory did we really help the bluebird? Or were we able to write a better thesis?

It was of great interest to me to listen to those who have had much more experience than I express their views on saving the bluebird. But no one in this attentive audience even once ventured a difference of opinion. I know full well that I couldn’t have been the only listener who was moved to comment—to agree or disagree. Why didn’t we? Wouldn’t it be worthwhile and interesting to devote an hour to free expression of opinions? And maybe a few of us could speak for those bluebirds—who can’t.

Margaret W. Moak
Annandale, Virginia

Dear Mrs. Moak:

Thank you for your stimulating thoughts. The questions you raise are really ethical issues which strike at the heart of scientific inquiry or indeed any inquiry. The very nature of explanation is predicated upon the notion of successful prediction, which in turn is built upon the concept of pattern reproduction. It is one thing to believe something is true; it is quite another to demonstrate the validity of that belief without repeatable, observable experimentation. But one of the axioms of modern science is that the very act of observation more of less alters that which is observed.

You are undoubtedly aware that birds raised in captivity often behave differently than those raised in the wild. But it is the bird in the wild which we are concerned about. To what extent shall we intrude upon this wilderness to learn more about the habits (behavior patterns) of the bluebird so that we can aid in the survival of this species? The erection of the nesting box is part of this process. Shouldn’t we also be informed of the species’ habitat needs (food supply) and the ways it avoids predators? Wouldn’t knowledge of the birds’ average life span in the wild be useful in projecting how many young need to be fledged successfully to maintain a viable population level?

Technological advance has undoubtedly aided the process of “humane” inquiry. Binoculars and spotting ‘scopes have replaced the shotgun. Nonetheless, I suspect there is a subconscious urge for dominion, for controlling the unknown, operating within the most altruistic bird bander—a kind of “shotgun mentality.” But the banders whom I know are extremely conscientious; they don’t approach the young, for example, if there is any danger of encouraging premature fledging. And do you think the hawk experiments were any more dangerous to young bluebirds than, say, the fright you might inspire in a child when explaining the consequences of getting into a car with a stranger? The nightmares should have survival value.

Moreover, I’m not sure that bluebirds “hate” Sparrows, Tree Swallows or House Wrens. But, like zoning commissioners, they are making discriminating (and discriminatory) decisions about who shall live where. As in all “affirmative action” programs, something has to give. In this case I support the House Sparrows’ eviction, forcibly if necessary. Perhaps further experimentation will show us a better way.

Last year I talked with a member of the Society who seemed very anxious to see a series of articles in Sialia which addresses these kinds of ethical considerations. It is hoped your letter will
stimulate that member to put pen to paper, or that you yourself will feel the urge.

The letter reprinted below acknowledges a very important benchmark in the history of the North American Bluebird Society. Dr. Zeleny, as usual, conveys the sentiments of us all.

November 29, 1979

Ms. Joan Heilman
Mamaroneck, NY

Dear Ms. Heilman:

Needless to say I am delighted with your article in the November 25 issue of Parade. It will surely stimulate interest in bluebird conservation throughout the country.

As of today (only the fourth day after publication) our Society has received approximately 25,000 written requests for additional information. Many more thousands will no doubt be received within the next week or so. Surely the bluebird will benefit greatly from this great surge in public interest in their plight.

Our Society is profoundly grateful to you for what you have done. Mary Janeatos, our Executive Director, in particular has asked me to express her gratitude to you. She will write to you when time permits. At present she is overwhelmed in handling the mountains of incoming mail!

Please let me know if there is ever anything I can do for you.

Sincerely,

Lawrence Zeleny
Founder

(Editors Note: By December 5th as these final words were sent to the printer, the volume of mail received passed the 60,000 mark with no end in sight. Go bluebirders!)
PLANTINGS FOR BLUEBIRDS
AND OTHER WILDLIFE

Winter Food Is Important Too

George Grant

Perhaps the most important of all plants of value to wildlife for food and cover is the Multiflora Rose, *Rosa multiflora*. It is especially valuable to bluebirds in winter, and deserves the attention of all bluebird conservationists.

Since time is important in the continent-wide effort to help the bluebird, the Multiflora Rose can, in 3 to 5 years, be providing large quantities of berries or “hips” as well as providing exceptional cover for the birds during feeding. These facts, combined with the relatively inexpensive cost of the plants, should make the Multiflora Rose a most desirable species for planting by bluebird lovers. Measurable results should be accomplished in just a few years, more so than with any other planting.

Also featured in this issue of *Sialia* is part two of the listing of plants taken from Arthur W. Holweg’s article “Some Shrubs and Vines for Wildlife Food and Cover” that appeared in New York State’s *The Conservationist* magazine.

In the Spring 1980 issue of *Sialia*, just in time for spring planting, there will be a detailed chart of all the plants listed to date in this series. This chart will provide persons interested in wildlife plantings more specific information to guide them in deciding what to plant on their property so that bluebirds and other wildlife might benefit the most from their efforts.

HARDINESS ZONES

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 would perform best as to winter hardiness. 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.

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°

*Sialia*, Winter 1980
Multiflora Rose
Japanese Rose
Rosa Multiflora

Introduced - From Japan and Korea between 1868 and 1886. Escaped from cultivation.

Hardiness - Zone 5.

Growth - Very rapid.

Habit - Deciduous shrub, very thorny, 6 to 8 feet tall and arching branches may spread to 10 or more feet across.

Flowers - Glossy red ¼” berries or “hips” that ripen about October and persist all winter.

Habitat - Open sites on practically all soils except those that are poorly drained or infertile.

Landscape Value - Being very aggressive, not meant for small yards or landscape areas, needs plenty of room, makes an excellent hedge and being used more and more as an ornamental because of large quantities of white flowers and berries produced. Makes an excellent “living” barrier fence.

Culture - May plant bare-rooted during dormant stage in fertile, well drained soils, pH not critical as long as not too acid or alkaline and requires sunny location. Fertilize and mulch to control moisture and weeds the first year.

Undesirable Traits - Seeds deposited by birds result in plants growing wild in unmanaged areas. Very desirable for wildlife but undesirable for some forms of agriculture and therefore, sometimes considered a serious pest or nuisance. Also difficult to control in small, confined areas and some canes may winter kill in more northern areas.

Diseases and Insects - None serious.

Similar or Related Species - No other rose can be considered for wildlife value comparable to multiflora.

Uses by Wildlife - Multiflora rose receives more use by wildlife than any other plant.

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.
for protective cover, nesting sites, food, winter emergency food. Very important winter food for bluebirds, robins, Cedar Waxwings, and especially liked by Mockingbirds. Used by at least 38 species of song and game birds plus canes are browsed by various mammals.

**Cover and Nesting** - Rates excellent for cover and nesting.

**Special Uses** - Makes excellent hedge particularly as a barrier or “living” fence. In 5 years the thorny, impenetrable mass will confine livestock.

**Shrub Rating** - General overall-good; Landscaping-fair; Wildlife-excellent; Bluebird-excellent.

**Wild Blackberry**
*Rubus Allegheniensis*

**Zone 3**

Blackberries thrive and form thickets in relatively open spots with good moisture. The succulent berries are a widely preferred summer bird food and are eaten by most mammals. The blackberry is important to grouse, pheasant and bobwhite quail. The stems and leaves are eaten extensively by cottontails and deer but it is classed as a relatively poor food for deer. Beyond its value as widely available summer food, it offers excellent cover for wildlife. The thorny thickets are an effective deterrent to predators and offer havens for birds and rabbits. In winter, cottontails find it valuable for both food and cover.

**Wild Grapes**
*Vitis species*

**Zone 3**

Wild grapes have a dual function in plantings for wildlife, furnishing both good food and cover. Grapes are a great favorite with a wide group of wildlife, including game birds, songbirds and fur bearers, especially the raccoon and skunk. The cottontail and deer eat the foliage and stems. As might be expected, the robins and cardinals especially favor the fruits. It is an important food for the wild turkey when it is available in its range. Its tangles provide good summer escape cover and nesting sites and fall and winter shelter for birds and rabbits. In deep snows, the dried raisins still clinging to the vines are a boon to the birds.

**Tatarian Honeysuckle**
*Lonicera tatarica*

**Zone 3**

Tatarian honeysuckle is a tall spreading shrub attaining a height of 10 feet. Old plants develop stems several inches through. Fruits are red or yellow, about one-fourth inch in diameter, and ripen from July to September. Catbirds, robins and a wide variety of other songbirds use the berries as do quail and turkeys, among the game birds. This plant adapts itself to a wide variety of soils and will do well in sun or moderate shade. If planted four to six feet apart, it will provide good travel lanes, nest sites and serve as a windbreak. After it is well established, seedlings will start appearing in many places where songbirds have roosted.

**Shadbush**
*Amelanchier species*

**Zone 3**

Shadbush is known by many local names including serviceberry, shadblow, and Juneberry. Its brief flowering in the spring signals the advent of another growing season. Various species are widely distributed and offer an early, eagerly-eaten fruit in late June or early July. In addition to the smaller mammals, bear enjoy its fruits and deer and cottontail will browse its twigs. The Ruffed Grouse as well as many of the handsomest of the songbirds seek out its berries—orioles, tanagers, waxwings, cardinals, bluebirds. This dump-forming, upright shrub prefers a well-drained soil but will adapt to sun or shade and dry or damp soils.
Staghorn Sumac
Rhus typhina
Zone 3

Staghorn sumac is the largest and most generally distributed species of this genus. It usually ranges in height below fifteen feet and, especially when cut back periodically, forms thickets by sending up shoots along its root course. It blooms in late June or early July when yellow-green, fragrant blossoms form at the end of the branchlets. The fruits form bobs which persist through the winter and offer food for squirrels and both song and game birds, including ruffed grouse, pheasants and bobwhite quail. Both the cottontail and deer eat this as one of their preferred browse species. Its colorful fruits and brilliant fall color make this a superior ornamental where space permits. Cutting it back every few years should enhance its value for color and food; it is especially well to do this successively with part of a thicket. A sunny situation is one of its requirements.

Gray Dogwood
Cornus racemosa
Zone 4

Gray dogwood usually grows to a medium size although it may, under best conditions, exceed 10 feet in height. It fruits earlier than most of the dogwoods and often bushes are stripped of their attractive white fruits which are borne on bright red fruit stalks, by migrating small birds. It is a much used and widely distributed native that forms thickets and grows on a wide range of soils from wet to dry. Its fruits are a universal favorite with song and game birds. Where the fruit is not consumed too early and thus is available into the winter, it offers good nutrition for pheasants and grouse. Cottontails feed on the stems but it is classed as a poor food for deer. It stands cutting back and serves well as a barrier planting.

Autumn Olive
Elaeagnus umbellata
Zone 3

Autumn olive is a tall, spreading shrub which makes an attractive ornamental specimen plant, if sufficient space is available. It is used in many conservation plantings, and is noticeable because of the silvery underside of the leaves. Flowers in June are small, yellow-white and very fragrant. The red, scaly fruits which ripen in late summer and into the fall are juicy and sought by many wildlife species. Pheasant, grouse, squirrels, raccoons and a great many songbirds eat the berries. Cottontails and deer browse the stems sufficiently to indicate it is a preferred food. In conservation plantings, it makes a good hedge to provide cover and a travel lane for wildlife. It will do well in a sunny, fairly dry location and the plants can be spaced as widely as 10 or 12 feet apart.

Silky Dogwood
Cornus amomum
Zone 5

Silky dogwood is a multiple-stemmed shrub which grows well on stream banks and poorly-drained as well as fertile soils. It may reach a height of six or eight feet and its purplish-red twigs root in contact with the ground. It bears white clusters of flowers in June and ripens its blue fruits in late August and early September. It is especially useful on wet banks and along streams to hold the soil. If planted for this purpose, a spacing as close as two feet can be employed. The fruit is eaten by woodchuck, grouse, quail, turkeys, raccoon and squirrels, and by a host of songbirds. Cottontails will eat the fruits as well as browse the stems.
BLUEBIRD TALES

Mary D. Janetatos

As the opening of the 1980 bluebirding season approaches, I can’t help the feeling of buoyant expectancy for the cause of bluebird conservation everywhere. With the arrival of the North American Bluebird Society, widespread interest has been generated in helping bluebirds across the continent. Larry Zeley’s many years of writing nationally published articles on the subject so dear to his heart has succeeded in inspiring the cooperation of many people in all nooks and crannies of the United States and Canada. Hubert Prescott spearheaded activities on behalf of the Western Bluebird. The John Lanes and Lorne Scott corralled a veritable army in the near reaches of the North to help the Mountain Bluebird. Many others like those who have attended the Society’s two annual meetings are so numerous, that to name a “Mr. Bluebirder” from North Carolina, Georgia, Mississippi, Wisconsin or Prince George’s County, Maryland, or a “Bluebird Lady” from New York, Vermont or Illinois would inevitably omit important names from the list.

Many of us do know first hand the thrill felt when, as we enter a group, be it at a political meeting, cocktail party or bird club gathering, we are instantly asked, “Well, how are the bluebirds doing these days?”

As Executive Director of the Society I have been blessed with the job of coordinating the activities of the many volunteers who have come forward to aid in this effective conservation movement. This comes because I have the most needed elements to do the job: the time and space (full time job, the office in my home). Helping with this task is, first and foremost, a very able administrative assistant, Mrs. Kathleen Smith, who, as a legal secretary, worked her way through law school and, as an attorney, practiced in two states before retiring to raise a family. She gives of her free time generously on behalf of the bluebirds, and makes valiant attempts to keep me on an even keel. Recently she steadied the ship when I suddenly spotted bluebirds on top of my bluebird nesting box. I went quite hysterical (after ten years of waiting, hope of seeing bluebirds in my suburban backyard had been tabled) until Kathleen, gazing at the flock of ten bluebirds said, “Calm down, you’ll scare them away...I didn’t know they would be so blue!” As I calmed down, we went from window to window in wonder, savoring the beautiful blue visit. Finally, Kathleen said to me, “It’s a good thing I’m here. Nobody would have believed you if you’d told them you saw bluebirds in this backyard!”

The other folks who help in the office on a regular basis include retirees, homemakers and teenagers. My own dear parents, Isabel and Anthony Dougherty, are on call because they live in nearby Annapolis. Barbara Cullinan, Irene Ritch, Ginny Keane, Jo Osterhouse, Marjorie Tate, Orma Caves, Colleen Caves, Tracy Washington, Debbie Osterhouse, Lois and Bud Lyon have been faithful regulars,
helping with the coding, stuffing and sealing which constitutes the work of making bulk mailings. Some people come on call for special needs: Elsie Bergamini, Mae Martin, my three children, John, Kathi and Ann Janetatos, and assorted friends and house guests.

Mailing out Sialia involves those named above plus others such as the Washington, D.C. firefighting twins Tom and Joe Tait. Many an unsuspecting cemetery and golf course has been the recipient of bluebird nesting boxes which were erected, with suitable permission, by these jolly siblings who know good bluebird habitat when they see it. Sam Hall, who gives talks on birds and runs a convalescent home for ailing birds, Mark Wallace, the convenience store clerk who maintains several trails on farms in Howard County, Carol Benya, President of the nearby Prince George’s County chapter of the National Audubon Society, Lynn Brantley, a birder who lives nearby—all these have worked hard in the office to get Sialia out promptly.

Finding the necessary volunteer help to get Society work done is to me a stimulating, often amusing challenge. Some bluebirders are the confirmed outdoor type who hate the prospects of actually being indoors at all. Recently, when the pressing need of more help in mailing out 1200 copies of Sialia sent me searching for members who lived nearby, I thought of Mark Wallace, a young man who had long been involved in maintaining farm bluebird trails. He had asked me to band several broods of his fledglings, and this gave me a good chance to invite his help in the office.

As we rode across the fields (time did not permit for more pleasant walking), I thought I spied a Green Heron near a pond. Stopping the car, I got out and began almost running across the field, binoculars at the ready. ZAP! I was stopped right in my tracks—by what? I could see nothing in the way! My companion was doubled over laughing at my shock—the electric wire fencing used to keep the cows in their places had kept me out! City slicker that I am, the electrified wire fence was news to me. Well, I had a somewhat chagrined peek at the heron, and then we pressed onward to the bluebird trail. After the banding was finished, Mark said he could take me to a beautiful stand of cardinal flowers not far away in a low, wet part of the meadow. Off we went again, on foot, and ZAP!—I was stopped again! Looking around, dazed, all I could see was my friend, again splitting his sides over my sudden, arresting stop. Yes, again the electrified wire, at about knee level, had prevented me from getting into the cows’ territory. Feeling quite foolish, I asked Mark, between gasps of laughter, “How many shocks does a cow need to learn to keep away from those wires?” I won’t tell you his answer. So from then on I’ve been merciless in asking him to volunteer in the office. (And he has been most generous!)

It turns out that Mark’s mother is a teacher in the Scaggsville School for handicapped children. The shop class in this school was searching for bulk mail work the students could help with. We soon worked out a very happy arrangement, where Bluebird Society work materials would be delivered to the school, and picked up when finished by the students. To date, they have stuffed and sealed envelopes, and boxed stationery for the Society.

The appearance of the Parade Magazine article on bluebirds, Sunday, November 25, shifts the Society’s need for volunteers into an entirely different dimension. At the time of writing this, there have been 35,000 responses received! We now must search for whole groups of people to send the materials to those across the country who are now interested in bluebird conservation. The initial volunteer response has been wonderful. Non-bluebirding friends have come forward, and are generously giving of their time sorting the mail sacks (8 sacks one day, 10 the next). Since all inquirers had enclosed a self-addressed stamped envelope plus 25 cents in coin, stamps or check, the cost of printing nestbox instructions and brochures is covered. But the cost of handling this huge volume of mail would have been staggering without the help of volunteers.

If all who responded become committed to the cause of saving the bluebirds, we all might see the beautiful blue flocks over our houses, fields and lawns once again!
Report of Second Annual Meeting

Mary D. Janetatos

The Second Annual Meeting of the North American Bluebird Society was held from Friday, November 9 through Sunday, November 11, 1979, at the Conference Center of the National Zoological Park at Front Royal, Virginia. About 80 people attended, coming from eleven states, the District of Columbia, and the Province of Saskatchewan.

In opening remarks, Bill Stott stated that the Society’s growth in the short period since its beginning has come to the 1200 mark and is still climbing. Rev. Raymond Prybis again helped to frame the Society’s concern for all of creation, when he utilized an American Indian prayer for the Invocation. Gene Morton, Curator of Birds at the National Zoo, in welcoming the Society to the excellent facilities at Front Royal National Zoological Park, described how he had recently been in the Yucatan and Cuba, studying “extinct birds,” a mystery we all had problems visualizing.

In reports on the regional status of bluebirds, Allen Prigge, of Eugene, Oregon, said that the Western Bluebirds have many needed human friends in the Willamette Valley of Oregon. Bluebird conservation there has been inspired by the leadership of Hubert Prescott, a pioneer of the Western Bluebird. J. Lorne Scott, of Indian Head, Saskatchewan, reported on the exquisite Mountain Bluebird, which has to its advantage the famous 2,000 mile long trail begun in many parts of Manitoba and Saskatchewan by Lorne and the late John Lane, and now maintained by Lorne and Mrs. Norah Lane, with help at many points from the Brandon Bird Club and other collaborators. Larry Zeleny completed the regional status reports by telling us about the 1979 nesting season experienced by the Eastern Bluebird.

After the lunch time recess, the Saturday afternoon program began, with some adjustment because R. B. Layton, of Jackson, Mississippi, was unable to attend. However, we look forward to meeting with and hearing from him some time soon. Jack Finch described his efforts to win friends for the bluebirds over the years, and seemed to indicate that he regarded it an uphill battle. But, having won the support of the Mt. Pleasant Ruritan Club for his Homes for Bluebirds, Inc., he has been steadfastly spreading bluebird houses throughout the Carolinas in a truly inspiring fashion. The Ruritan Club has helped Jack by publishing his fine brochure entitled Come Back Little Bluebird, which was distributed to Society members in the last issue of Sialia. It seems Finch’s Blueberry Nursery can claim to be Finch’s Bluebird Nursery!

Then we heard from Col. William R. Robertson, of Roswell, Georgia, about his bluebird promotion efforts in the Atlanta area, where he has built and distributed thousands of bluebird nesting boxes over many years. Like all bluebird friends, the Colonel keeps on refining his design, and now is sure that he has designed the Best Bluebird Box anywhere. The local Camp Fire organization agrees with him, and has declared him to be one of their own officials, card-carrying Blue Birds!

Dick Tuttle was next, with the excellent program he has developed for elementary school students at the intermediate level—grade 6 on up. Also, Dick has originated an attractive, effective brochure entitled: Hit the Trail For Bluebirds which was published by the Ohio Department of Natural Resources. This brochure was distributed to N.A.B.S. members with the Summer 1979 issue of Sialia.

Following these stimulating reports, which were seasoned each with the particular wit of the speaker, the Annual Business Meeting was held. The program’s Master of Ceremonies, Bill Stott, chaired the Meeting. Elections of Officers and Board Members, the first order of business, resulted in approval of the slate recommended by the Nominating Committee, except for the office of Vice President, which was referred to the Board. The President-elect, Mrs. Marilyn Guerra, immediately assumed the chair. The proposal to expand the number of Board members was brought up, but it was
pointed out that this will require amending the Constitution and Bylaws. Since a number of items must be amended in the Constitution and Bylaws, especially the stipulation as to when the annual meeting will be held, it was decided that the entire matter should be referred to a Review Committee and all changes be recommended for action by the membership at the Third Annual Meeting, to be held as now required by the Bylaws, on November 7, 8, and 9, 1980, at a place to be announced. (Mark your 1980 calendars NOW!)

After the Annual Business Meeting, an impromptu description of some bluebird research efforts at the Front Royal Zoological Park, was entertainingly presented by the widely known graduate student of bluebird behavior, Gee Gee Geitghey, and a further research report was given by Paul Woodward, past President of the Montgomery County chapter of the Maryland Ornithological Society, who has had bluebird trails at Hughes Hollow, Maryland, and near his home in Fairfax, Virginia.

At the Annual Banquet, Ruby Finch offered a lovely blessing, and the high spirits of bluebird conviviality prevailed. Bill Stott recognized the outstanding efforts of the immediate past President, Bob Patterson, and those of Jon Boone, the outgoing Editor of Sialia, who had recently resigned that position and his position as the Society’s first Vice President, due to the press of his full time position with the administration of the University of Maryland at College Park. Bill also praised the efforts of the many fine volunteers who give long hours of work in their devotion to the beautiful bird we all love.

Sunday morning, a walk on the grounds of the Zoological Park was pleasant, and turned up a wintering bluebird or two, as well as a Pleated Woodpecker and a flock of Cedar Waxwings. Following breakfast, the morning program proceeded. Laurance Sawyer, of Ringgold, Georgia, captivated us with amusing stories of his and wife Adelaide’s adventures in distributing his highly original bluebird homes. Saying that his designs were really for people, he had album after album filled with lovely color photos of his “Bluebird Housing.” He then took us all outside, where the intermittent weekend rain had momentarily stopped, and gave us a demonstration of the way his homemade tools hollow out the logs he uses for his ingenious designs.

George Grant, of Canastota, New York, was the final scheduled speaker. He told of the frustrating time he and many others face when that lovely, persistent competitor for nesting boxes, the Tree Swallow, arrives in the North and quickly usurps the existing sites. While immediately placing more nestboxes seems a partial answer, George said that much needs to be learned about territorial requirements of the Tree Swallows. He observed that the Tree Swallows are beautiful, valuable, insect-eating native birds, also deserving of human help. Since they nest only once, and the bluebirds more than once, perhaps greater patience (grit your teeth and count to a million, New York, etc.) will help us all, humans and birds. At the subsequent Board meeting, George Grant was elected Vice President of the Society.

Just before lunch on Sunday, a film and tour of the facilities was provided by Guy Greenwell, of the Center. We were privileged to see and hear about the work being done breeding rare and endangered birds and animals.

Following Sunday lunch, Lorne Scott repeated by popular demand his Saskatchewan slides. Viewing these revealed the deep love of all nature which is the very make-up of this fine man from Canada. We were truly fortunate to glimpse his insight, his appreciation of and devotion to, his native habitat in Saskatchewan.

The feeling and mood of the Second Annual Meeting was one of pervading joy at being able to listen to and converse with the many participants. Time just didn’t permit everyone to show their slides and films, and perhaps to air all of their personal concerns and questions. William and Edith Miller, from Kings Mountain, North Carolina, for example, have developed an excellent film showing their hand raised bluebirds, which hopefully we can see at the next meeting. Much was learned, more was shared, and all of the events will be long remembered. Plan now to be a part of next year’s Meeting. You’ll surely love it!
Volunteer cooperators are being sought for a N.A.B.S. research project on bluebird nest parasites. A major aspect of the project concerns parasitism by the blowfly, Apaulina. Adult flies lay their eggs in bluebird nests and the fly larvae feed on the nestlings. Research has suggested that parasitism may be a more serious problem for nests in boxes than nests in natural tree cavities, possibly because bluebirds usually place more nesting material (grasses, rootlets, pine needles) in flat-bottomed boxes than in round-bottomed tree cavities. Season, nest site location, and the well-being of the nestlings are also suspected of exerting an influence on the severity of parasitism.

Cooperating persons should maintain at least 20 nest boxes that are used by bluebirds and be able to check active nests 2 or more times a week. Special nest liners approximating the shape and size of natural cavities will be placed in half of the boxes expected to be used by bluebirds; boxes without liners will serve as controls. The Society will furnish cooperators with nest liners, instructions and shipping containers at a cost expected not to exceed $5.00. Cooperators will be expected to complete a short reporting form for each nest contributed to the study. Hopefully, 10 or more nests will occur in the experimental and control boxes in any given season (spring or summer). Cooperators will be asked to collect all materials from both the experimental and control sites shortly after the young fledge and mail these to N.A.B.S. biologists for analysis of all parasites, including blowflies.

If you would like to join this project during the 1980 nesting season, please fill in the form below and mail it to:

Ben Pinkowski
N.A.B.S. Research Project
245 County Line Road
Bridgeville, PA 15017

Name ____________________________________________

Mailing Address ______________________________________

Phone ____________________________________________

Bluebird Species Using Boxes _______EASTERN _______WESTERN _______MOUNTAIN

Location of boxes State ___________________ County ___________________

Nearest City ________________________________

Box size Floor ________ x ________ Floor to entrance ________ (inches)

Number of boxes in place ________ avg. used by bluebirds ________

Frequency of checking boxes ________________________________

Method of opening boxes ________FRONT ________SIDE ________TOP
The postures bluebirds display are important to their survival and provide clues so that we can better understand their behavior. The hole of the nesting box is the most significant aspect of bluebird territory and a variety of ritualized NEST DEMONSTRATION DISPLAYS advertise its presence. Simply put, "This behavior evidently functions as an advertisement: good-looking bachelor with own apartment wants a mate (Von Haartman, 1957)."

This display has many variations from start to completion. However, the figures above typify a common sequence. With the female usually present, the male will carry nesting material which he often obtains from within the box itself. During a high-intensity display, the male, with nesting material in plain view, flies to the nesting box, using one or more aerial displays. He perches on the nest with tail spread and wings partly open, showing the blue color of his back conspicuously (Figure A). While at the nest he often looks around, showing his face. This face-showing probably has some signal value and appears to be somewhat ritualized (Figure B).

The bird may then start to rock back and forth, putting his head and shoulders inside with every forward rock (Figure C, left). Finally the male enters the cavity and, as he inspects, may peck at the sides and floor (Figure C, right). Before leaving the box the bird will show his face before ducking inside. Very often the male will depart the nesting hole, HOVER for one or two seconds a few feet from the cavity, then return immediately.

We are grateful for the work of David C. Krieg and others in developing this feature. We especially acknowledge Krieg's "The Behavioral Patterns of the Eastern Bluebird," New York State Museum and Science Service Bulletin No. 415, 1971.
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.

Memberships: Student (under 21) and Senior (over 60), $7.50; Regular, $10; Sustaining, $30; Supporting, $50; Contributing, $100; Corporate, $100; Donor, $250. Group membership rates available upon application. Amounts over $5 are tax deductible.

Address: North American Bluebird Society
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