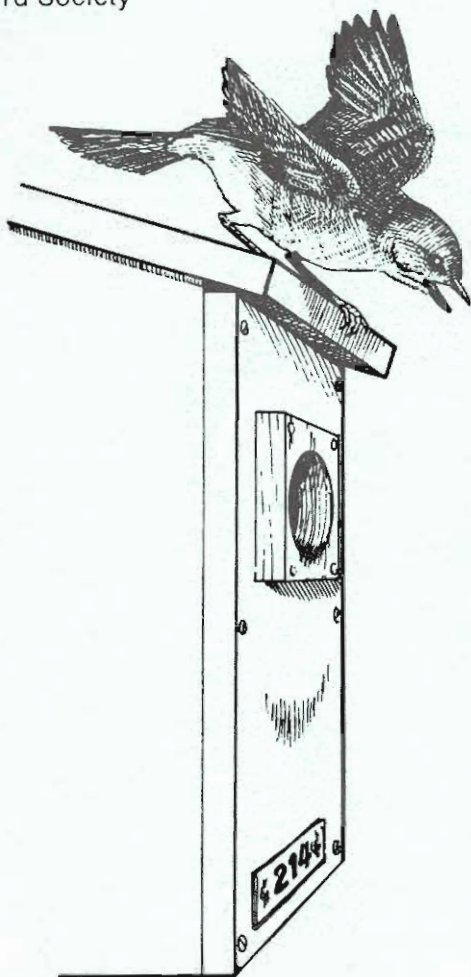


Sialia

Volume 6, Number 4
Autumn 1984
Pages 121-160

The Quarterly Journal
Of
The North American
Bluebird Society



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

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

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Sialia

The Quarterly Journal
About Bluebirds

Volume 6, Number 4
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Joanne K. Solem

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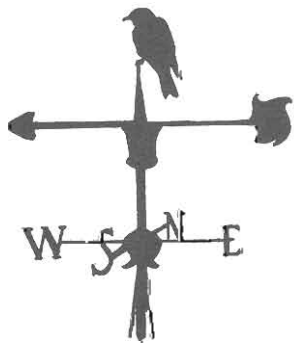
COVER

A bluebird fledges from a nesting box as shown by Richard L. Woodward. Lawrence Zeleny examines this critical period on p. 127.

Sialia welcomes original articles, art and photographs for publication. Although this journal is named for the bluebird, material relating to all native cavity nesting species will be considered. Manuscripts should be typed neatly and double-spaced. All material submitted is subject to editing or rewriting. Submit the original manuscript plus a duplicate copy if you wish to proof the material before publication. If the article has been submitted elsewhere (or previously published) that fact must be stated at the time of submission. All manuscripts will be acknowledged. Black and white glossy photographs are preferred. Print the subject, names of individuals pictured, photographer and return address on the back of each photograph. Art is welcome and should be in black pen-and-ink. We do not assume responsibility for manuscripts, photographs or art submitted. The editor's address is 10617 Graeoch Road, Laurel, Maryland 20707.

Presidential Points

Lillian Lund Files



As your outgoing President I can truly say I've had a most enjoyable year working with NABS. This organization through its members is doing a fantastic job for bluebird conservation and the results are getting better all the time.

Since 1978 many excellent suggestions have been made in *Sialia* promoting bluebird conservation; I encourage all of our readers to write and give us their ideas.

I have had bluebirds on my property for more than 36 years which is almost unheard of in Massachusetts. Folks in my state come "out of the woodwork" when they know you have bluebirds. My phone nearly jangles off the hook every April with the familiar question, "Have they come yet?" Listed below are some of the ways I have successfully promoted bluebirds.

I have given over 100 lectures throughout New England to bird societies, garden and womens' clubs, historical societies, boy and girl scout troops, schools, libraries, nature, wildlife and Audubon groups, senior citizens and community clubs, Appalachian Mountain Club meetings and even to the residents of a campground. At these lectures I always encourage people to register for a free copy of *Sialia*.

I started a "Save the Bluebird Committee" in our Tyngsboro Bird Society consisting of eight members who had a lot of fun constructing 542 boxes for our trail.

I write articles for newspapers and magazines. The County Extension Service Program conducted a one-half hour radio interview which included my telephone number for more information. Massachusetts Wildlife used the

NABS public service announcement 30-second tape on a few television stations. I ask permission to erect boxes on the grounds of historical homes and also leave brochures at the admission desk. Contact estate caretakers (some states have special organizations for these folks). Interest them in putting up bluebird boxes for they usually have excellent habitat. I have also had success in placing boxes on the grounds of local monasteries which usually contain fine bluebird habitat.

During your travels leave brochures in libraries. Personnel are usually delighted with them and will often put them on bulletin boards. I also place a magnetic sign on my car.

Usually I have two or three pairs of nesting bluebirds on my property so that at lectures I encourage listeners to come and see the bluebirds. Some always take me up on this invitation which is a great way to get folks interested in putting up boxes. At that time you can provide a lesson in monitoring boxes. Encouraging bird societies to have a spring bird walk on your bluebird trail can also be effective.

All bluebirders must feel like "one of the chosen ones" when we are fortunate enough to have nesting bluebirds on our own property, but I also feel as if we are godparents to all bluebirds wherever they are in giving them such much needed loving attention. We should feel like a "Johnny Appleseed" spreading the word on how to bring back the bluebird. ■

Large Box Openings Can Be Curse or Blessing

Art Aylesworth

All of the information available to this writer a decade ago concerning the size of entrance holes for bluebird boxes recommended 1-1/2 inches as being ideal. I helped build and distribute 6000 boxes with this size opening during the years 1973 through 1979. During this same period of time, Duncan Mackintosh of Lethbridge, Alberta, was building hundreds of boxes with box openings of the same dimensions.

At about this time Mackintosh and I became aware of the fabulous bluebird trails operated by Al Perry near Boise, Idaho, and Jess and Elva Brinkerhoff near Prosser, Washington. These successful bluebirders were using 1-5/8 inch openings on their boxes and reported nearly 100% occupancy of Mountain Bluebirds. At that time neither Mackintosh nor I had any trail of boxes with more than a 10% occupancy rate. Box usage by Mackintosh was exclusively Mountain Bluebirds and my area of western Montana was 95% Mountain Bluebirds and 5% Western Bluebirds. During lengthy discussions in September 1979, Mackintosh and I both noted that we had observed Mountain Bluebirds with broken feathers on their shoulders; each of us had also observed rings of broken feathers about the shoulders and breast of male Mountain Bluebirds. Mackintosh and I agreed that we should try larger openings on our boxes. Mackintosh opened a portion of

his boxes to 1-5/8 inches. I had a special tool made by a machinist to open my existing boxes to 1-9/16 inches. Not being able to buy a 1-9/16 inch bit, I had the same machinist alter a 1-1/2 inch drill bit with carbon chips. Over 1000 new boxes were made with this new 1-9/16 inch drill bit.

The results in both Alberta and Montana were outstanding. The occupancy rate doubled and tripled in some areas. Mackintosh and I drove hundreds of miles in an effort to open as many of these boxes as possible for the 1980 nesting season.

Deni Hershberger of Plains, Montana, noted startling results in 300 boxes in her area. She has a good mixture of Mountain and Western Bluebirds and recorded approximately the same occupancy increases for both species.

All boxes in Montana, Alberta, and the Panhandle of Idaho had the larger box openings available by the spring of 1981. All new boxes built and distributed had the larger box openings. Box occupancy rates continued to increase and in three areas in the spring of 1983 over 95% of large trails (100 boxes or more) were occupied by bluebirds.

At no time during this period was a single European Starling reported in any of these thousands of boxes. Then, in the spring of 1984, trouble appeared. Starlings were noted in the greatest

numbers ever reported during migration, with thousands being noted in flocks for the first time in some areas. Virtually all trails in Montana and Alberta with 1-5/8 inch openings had some starling predation and in some areas the infestation was severe. All of these trails are very well monitored and 1-9/16 inch patches were quickly designed and the starlings evicted. Loss of bluebirds was minor and bluebirds quickly reoccupied the boxes. None of the thousands of boxes with 1-9/16 inch openings has allowed a starling to gain entrance.

The area involved in this report is primarily Mountain Bluebird territory; however, it also contains the largest and most concentrated population of Western Bluebirds of which I am aware. Because the area involves thousands of boxes and thousands of nesting bluebirds of both species, some solid observations can be made:

1. Bluebird occupancy greatly increases with openings larger than 1-1/2 inches. Perhaps some of these birds must have a large opening to enter the boxes and perhaps some simply prefer a larger opening.

2. Boxes with 1-5/8 inch openings can and will be occupied by starlings and should not be used at any time.

3. Western Bluebirds do not appear to need 1-9/16 inch openings but, nevertheless, seem to prefer such a size over 1-1/2 inch openings.

The use of 1-9/16 inch drills has been a problem because it is not a standard size. After several phone calls to specialty tool companies, I have located a firm that makes 1-9/16 inch multi-spur self-

feed drill bits. Forest City Tool Company, Box 788, Hickory, North Carolina, is the manufacturing firm. Their toll-free number is 1-800-438-2623. The following are dealers in the Rocky Mountain area that should have these bits in stock or can get them on short notice: Missoula Saw Inc., Missoula, Montana; Heiser Industrial Tool, Seattle, Washington; National Industrial Supply, Boise, Idaho; Akhurst Machinery, Edmonton, Alberta; and C & G Industrial, Denver, Colorado.

The manufacturer's suggested retail price is \$25.90 which is in line with other high-quality drill bits of a large dimension. These drill bits have 1/2 inch shanks and are designed to drill up to 1-3/4 inches of material. They are best used in drill presses but may also be used in electric drills. They leave a clean and smooth opening in any wood material.

Also available are hole saws in 1-9/16 inch from Dayton Manufacturing Company of Chicago or Rockwell International or their dealers in local areas. These are saws that require a mandril to use in a drill press or electric drill. The price is about \$10.00 for the saw but higher if a mandril must be purchased. These are too slow to use for large production jobs but could save money for those needing only a few boxes.

After considering several year's results in the Mountain Bluebird Trails area, I would suggest that any bluebirder located in Mountain or Western Bluebird areas use 1-9/16 inch box openings for greater occupancy rates and still avoid starling interference. ■

European Starling-Eastern Bluebird Nest Site Competition

Peter A. Zerhusen

Repeated mention is made in the literature of the devastating effect the introduction of the European Starling (*Sturnus vulgaris*) has had on bluebird populations throughout the United States. With the introduction of the bluebird nesting box with its 1½ inch opening, starling competition was effectively eliminated in these man-made nesting sites. However, competition surely continues in natural cavities where the size of the opening is frequently in excess of 1½ inches. This author became interested in obtaining some measure of the level and intensity of this competition between the Eastern Bluebird (*Sialia sialis*) and the European Starling.

The site selected for the study was the author's own property located approximately 16 miles west of the outskirts of Baltimore City, Maryland. The author lives on approximately 6.5 acres of ground made up of unkempt fields with sporadic immature deciduous trees (10 to 20 feet in height). Adjacent property owners have from 3 to 10 acres of ground consisting primarily of lawns, fields, and pastures.

A single bluebird nesting box (4 x 4 inches) located on the mowed portion of the author's property produced two successful nestings of bluebirds in 1984.

To obtain a measure of the competition for nesting sites between the Eastern Bluebird and the European Starling, a second nesting box (which the author will call a starling box) was placed approximately 50 yards from the bluebird nesting box. The starling box had somewhat larger dimensions than the bluebird nesting box and an opening of 2½ inches. This box was used because of its larger entrance hole which permitted starling access. Although chickadees, titmice, wrens,

bluebirds, and flickers inspected the opening of the starling box, it was not long before the bluebirds' nemesis arrived and claimed the box.

In order to determine correctly the intensity and level of competition, the author decided to live-trap every starling attempting to nest in the starling box. Each trapped starling was disposed of immediately to ensure that each bird would be counted only once. A manual trap similar to the one described by Morris Green in the Winter 1984 issue of *Sialia* was used to capture the starlings (Green, 1984).

Table 1 details the frequency of use of the starling box by starlings. The box was checked each morning before work and most afternoons after work. The author was on vacation from 14 June to 1 July and 21-28 July. The box was not observed during this period; however, no nesting birds were found upon the author's returns from vacations. No female starling was able to complete a clutch of eggs and most birds were captured before egg laying. The author was not able to identify the sex of the starlings.

Of particular interest is the fact that as many as four birds were captured in one day and a total of 12 birds were trapped during a one week period (7-14 May). Based on the capture of 48 mature birds, competition between Eastern Bluebirds and European Starlings for nesting sites remains considerable.

Table 1 further suggests that bluebirds must not only contend with adult starlings, but that, later in the summer, immature starlings intensify the struggle for available nesting sites (11 captured). Immature starlings were seen regularly at the box after the middle of

July. Their presence coincides with the third nesting of the bluebird (17 July-27 August).

One logical conclusion that may be drawn from this study is that efforts directed at increasing the populations of bluebirds must necessarily include undertakings aimed at reducing the starling population. This study has suggested live-trapping and disposal. Other alternatives include repeated nest removal and destruction as well as plugging up known starling nesting sites such as abandoned Purple Martin motels and the innumerable openings contained in the poles supporting the signs along our major highways. Countless numbers of starlings are produced in this manner annually.

Finally, it must be noted that the total number of trapped adult starlings

(48) represents a minimum estimate of the level of competition for available nesting sites. A pair of starlings was at the starling box daily from the beginning of the nesting season until the author went on vacation (14 June). Successful trapping took from one to several days, thereby substantially reducing the total number of trapped birds. If starlings could have been trapped immediately upon arrival at the starling box, the total number of trapped birds would have been considerably higher. ■

Literature Cited:

Green, M. 1984. A simple manual trap for House Sparrows. *Sialia*, 6(1):8-11.
 12554 Indian Hill Drive
 Sykesville, MD 21784

Table 1. Number of Trapped Starlings Using the Starling Box.

	Number of Starlings
Prior to May 7	27
May 7	4
May 8	1
May 10	1
May 11	1
May 12	3
May 13	2
May 19	1
May 23	2
May 24	1
May 25	1
May 29	1
June 2	1
June 6	1
June 7	1
July 10	1 immature
July 13	1 immature
August 3	1 immature
August 6	1 immature
August 8	1 immature
August 13	2 immature
August 15	1 immature
August 22	1 immature
August 23	2 immature
Total 59	

Bluebird Fledglings

Lawrence Zeleny

The most hazardous period by far in the lives of most of our songbirds is during the first few days after the young birds leave their nests. Nestlings are said to be "fledged" at the moment they leave their nest; they then become fledglings. From a life of relative security where they are closely attended and guarded by their parents, they are suddenly thrust into a strange and often hostile world full of unseen and unknown dangers. The mortality of young birds at this age is often enormous but, cruel as it may seem, this is one of Nature's ways of eliminating the weaklings of a species and providing for the survival of the fittest.

Contrary to common popular belief, parent birds rarely, if ever, push their young out of the nest when the time for fledging arrives. The young birds simply obey an irresistible instinctive urge to leave the nest, although the parent birds sometimes encourage them when the fateful moment approaches.

The ability of young birds to fly at the time of fledging differs greatly among different species and to a considerable extent among individuals of the same species. In general, the young of cavity nesting birds remain in their nests longer than those of species that build their nests in the open; hence, they are better developed and better able to fly at the time of fledging.

The Purple Martin is outstanding in this respect. Young martins remain in the nest nearly a month by which time their wing feathers are almost fully developed. If they are strong and healthy when they leave the nest they fly amazingly well, almost as well as the adult birds, although they naturally tire more quickly.

Our common American Robin is close to the other extreme. Young robins remain in their open nest only about 10 or 12 days. When they leave the nest they usually land on the ground quite soon and are unable to fly more than a few feet for the first day or two. In those residential areas where house cats are abundant, the mortality of young robins during their first two days out of the nest may be as high as 80 or 90 percent in spite of the brave efforts of the parent birds to defend their young. Mockingbirds, thrashers, and jays have similar problems with their fledglings, but the parent birds of these species will often attack marauders so furiously that all but the boldest predators will retreat in terror. I have been attacked and severely pecked several times in my garden when I unintentionally approached mockingbird fledglings too closely.

Young bluebirds usually leave their nest at the age of about 17 or 18 days. On the day of fledging, the parent birds seem to encourage their young to leave the nest by restricting their food supply and by calling to them repeatedly in an enticing manner from a short distance. Each young bird at the moment it leaves the nest makes a valiant and usually successful attempt to fly to a nearby tree, bush, or any other relatively safe place where it can keep off the ground. Most young bluebirds are capable of flying 50 to 100 feet on the first attempt. I once witnessed the maiden flight of a bluebird that flew more than 450 feet to the nearest tree with the aid of a strong tail wind. Each young bird is lavished with attention and food by the parents as soon as it has flown. The satisfied gurglings of these more venturesome youngsters while they are being fed no doubt pro-

vide an added incentive for the rest of the brood to try their wings. The entire brood usually leaves the nest within a period of about two hours, but, occasionally, one or more of the birds will remain in the nest until the following day.

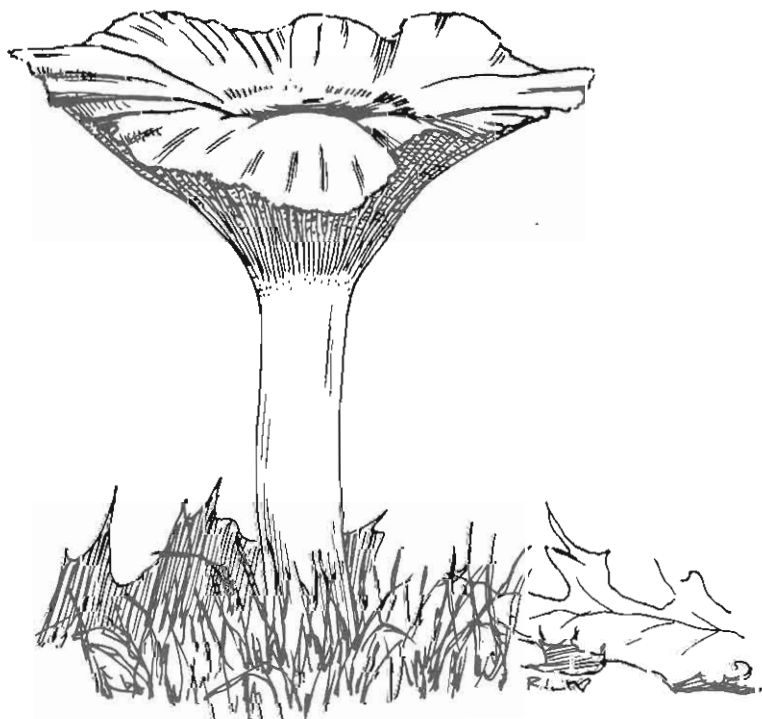
The newly fledged young bluebirds soon work their way into the higher branches of any nearby trees. They usually remain high off the ground for several days, flying from tree to tree to gain strength and perfect their flying skill. While they are thus reveling in their newly discovered world, they keep each other and their parents informed of their whereabouts at all times by means of plaintive call notes. At night and often on rainy days they huddle close together on a branch, presumably for warmth and companionship.

The bluebird fledglings start finding a small part of their own food when they have been out of the nest for

about two weeks. They are encouraged to do this by their parents who start a "weaning" process at about that time. Within another week or ten days the young birds learn to obtain all of their own food and are then no longer dependent on their parents.

Bluebirds have strong family ties, so the young birds usually remain fairly close to their parents throughout the summer and early autumn. Occasionally some of them will assist their parents in the feeding and care of the young of a later brood. Family cooperation of this kind is rarely observed elsewhere in the bird world or for that matter in the entire animal kingdom. This is just one of the many reasons why bluebirds have a very special appeal to anyone who takes the time to become intimately acquainted with them. ■

This article was first published in the September 1974 edition of Purple Martin Capital News (now Nature Society News) and is reprinted with permission.



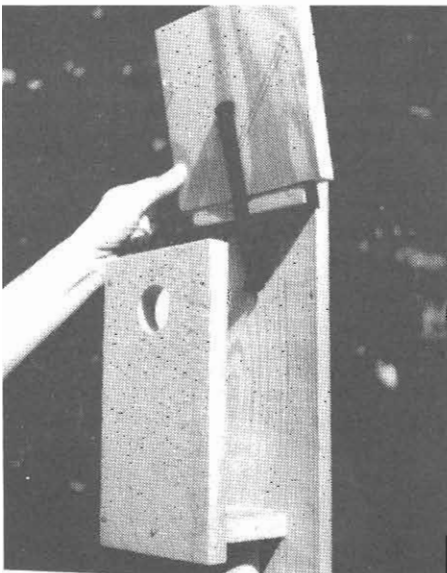
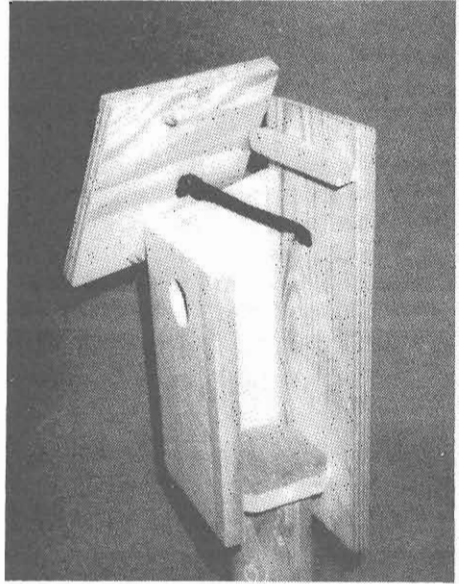
Elastic-Secured Tops for Nesting Boxes

Ron E. Kingston

Tired of carrying a screwdriver and screws, I devised a more convenient and less time-consuming way to monitor my top-opening nesting boxes. I used a piece of elastic to keep the top tightly attached to the boxes, but which allowed easy monitoring.

I used a 3/4-inch wide piece of elastic and stapled it to the inside of the back (8 inches from the bottom). Stretching the elastic to its maximum, I stapled it to the inside of the top approximately 3 1/2 inches from the back of the box. The method I used was to lay the box on its back. Using about 12 inches of the elastic, I stapled it to the inside of the back of the box and, with the top against the "dowel," stretched the elastic to its maximum and stapled it to the top.

Two staples were nailed on the underside of the top which fit tightly



against the front of the box to act as a guide for the top. If a more secure top is later needed, wires can be strung from the staples to nails driven into the sides of the box.

My trail is located in a remote area of Sky Meadows State Park of Virginia where guests are not allowed, so I have no problem with vandalism. I would recommend this type of box only for locations where vandalism is not a problem, such as remote areas, fenced yards, etc.

It is best to use galvanized staples and nails. If you don't overstretch the elastic and the elastic-secured top the nesting box will last a long time. ■

8500 Summer Breeze Lane
Springfield, VA 22153

INSPECTION SCREEN FOR MANUAL SPARROW TRAP

Morris M. Green, Jr.

A useful accessory for the manual sparrow trap described in *Sialia* 6(1):8-11 is an "inspection screen" that allows the operator of the trap to verify the species of the trapped bird before it is disposed of.

The screen can be installed on new bluebird nesting boxes when they are constructed. Old boxes will have to be modified somewhat to accommodate this accessory.

Simply stated, this screen is a piece of 1/2 inch hardware cloth in-

serted between the top of the box and its lid (Figure 1). The folded-down side-flaps prevent sideways movement of the screen.

The nesting box shown in the first photograph is ready for occupancy by any pair of protected cavity nesting birds. Both the lid and the screen can be quickly removed for periodic checks of nesting progress (Figure 2).

However, if a male House Sparrow occupies and becomes "bonded" to the box, the first step

Figure 1.

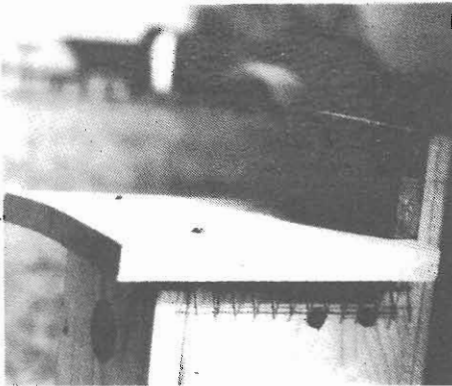


Figure 2.

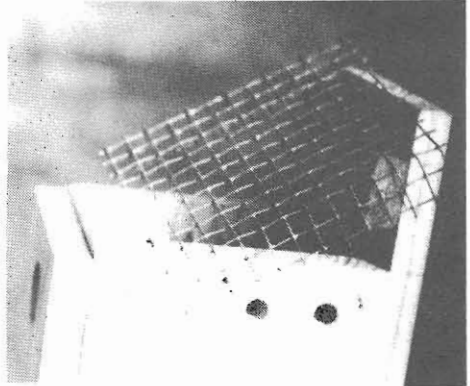


Figure 3.

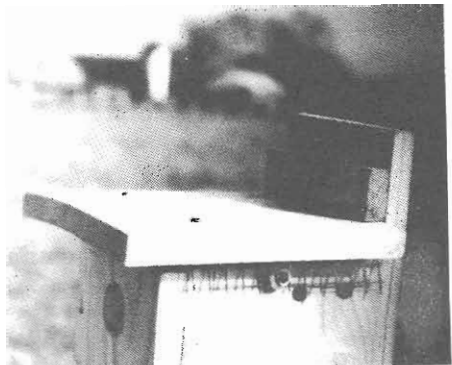


Figure 4.

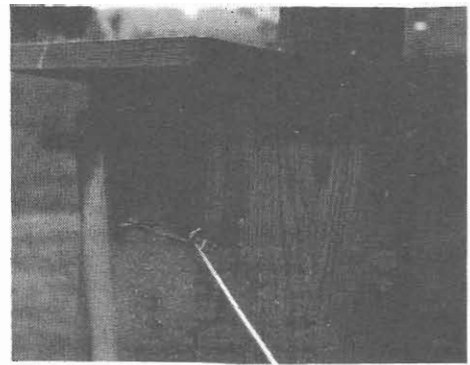
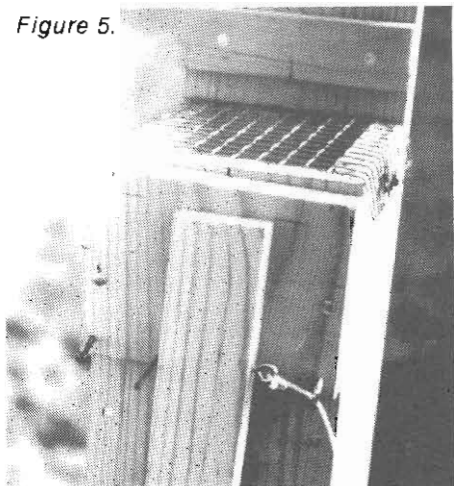


Figure 5.



in converting the box to a manual trap is to secure the screen by fastening each flap to the box with wood screws and flat washers, or small fencing staples (Figure 3).

The next step would be the addition of a "swinging door" and necessary hardware to the front of the door (Figure 4) as described in the article referred to in the first paragraph of this paper.

After the male sparrow is caught in the trap, the wooden lid *alone* is removed from the box (Figure 5). At that time, the trap

operator can look through the screen and positively identify the trapped bird. If it is a protected species, it can be released immediately by removing the screen.

This screen should be particularly useful to a bluebirder who has set a manual trap for a male House Sparrow, but does not possess the binoculars needed to identify the trapped bird reliably as it enters the nesting box. ■

8407 E. Lassie Ct.
Walkersville, MD 21793

WANTED: Back Issues of *Sialia*

Don't discard back issues of *Sialia*! If, for any reason, you cannot keep past copies of the bluebird journal return them and claim a tax deduction of \$2.50 for each.

Many new members desire complete sets of back issues which we are unable to supply. Copies of Volume 1:1,2 and Volume 3:2 are particularly needed. Mail back issues to headquarters:

North American Bluebird Society
Box 6295
Silver Spring, MD 20906-0295

Television Commercial Available for Loan

A 30 second public service announcement (PSA) TV commercial promoting bluebird conservation has been produced by NABS. Copies of the tape are available for loan to members.

Six copies of the 3/4-inch video tape cassette are available for a small charge to cover postage, mailer, and handling. In order to obtain a copy of the commercial, write to Richard J. Dolesh, 17800 Croom Road, Brandywine, MD 20613. Enclose a check to NABS for \$2.50. The tape should be returned in the enclosed self-addressed mailer within 10 days. Loan is on a first-come, first-served basis.



PLANTINGS FOR BLUEBIRDS AND OTHER WILDLIFE

A Weed Worth Cultivating

Karen Blackburn

The Winter 1984 issue of *Sialia* emphasized the role that weeds play in the winter survival of wildlife. There are, of course, many weeds whose fruits and seeds attract wildlife in the autumn months as well. While perhaps not as critical to wildlife survival as those weeds that provide winter sustenance, plants such as Pokeweed may be of particular importance to migrating birds.

Although Pokeweed is considered a pest plant by some people, others regard it as an attractive species, a weed worth cultivating. Certainly its large green leaves, reddish-purple stems and deep purple berries add a touch of color to the landscape. Under favorable conditions, these perennial

plants may reach twelve feet in height, though the stems die back to the ground each year after fruiting. The drooping clusters of berries, ripening in early fall, attract over twenty species of birds including the Eastern Bluebird.

Although all parts of the mature Pokeweed plant are reportedly poisonous if consumed, the first shoots of spring have long been harvested and cooked as greens in many parts of the country. In addition, the humble Pokeweed may one day have another claim to fame. Recent laboratory research indicates that certain chemicals within the plant show much promise in preventing the growth of leukemia cells.

POKEWEED

(*Phytolacca americana*)



Native Range—From Maine, Ontario and Minnesota south to Florida, Arkansas and Mexico

Habitat—Roadsides, wood margins and fields, preferring rich, moist soils

Habit—An erect, branching perennial plant growing 3 to 12 feet tall. Large leaves, 5 to 12 inches long, present a lush appearance. Reddish-purple stems die back to ground each winter.

Fruit and Flowers— $\frac{1}{4}$ -inch white and green flowers are born on spikes opposite the leaves. Dark purple berries ripen in autumn.

Landscape Value—Excellent for natural "plantings" and food plots for wildlife. Prefers full sun.

Sources—Wild transplants or start from seed.

Wildlife Value—Fruits and seeds are a preferred food of the Eastern Bluebird,

Northern Cardinal, Summer Tanager, Brown Thrasher, Northern Mockingbird, Hermit and Wood Thrushes, Veery, Cedar Waxwing and European Starling. Many other species, including the Great Crested Flycatcher and Rose-breasted Grosbeak, use the fruits to a lesser degree. Fruits are also favorites of the Mourning Dove, and for this reason. Pokeweed is also known as Pigeonberry in some regions. Raccoons, opossums and foxes take the fruits as well. As a cover plant, Pokeweed is only effective when planted in masses.

Undesirable Traits—All parts of the mature plant are reportedly poisonous if consumed by humans.

Special Uses—Young shoots are often gathered in spring and cooked as greens. Juice of berries has been used as a dye. ■

P.O. Box 110
E. Hampstead, NH 03826

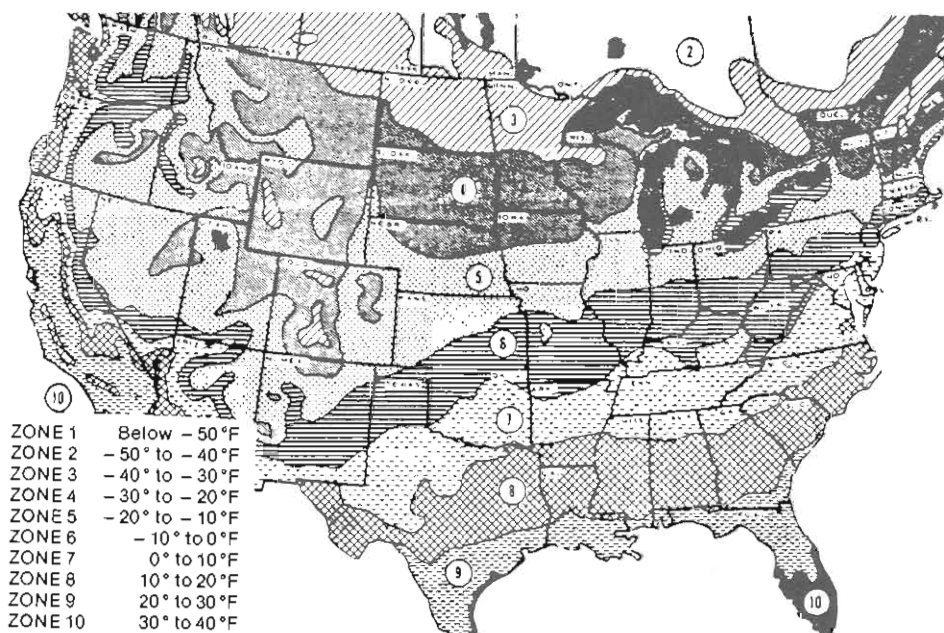
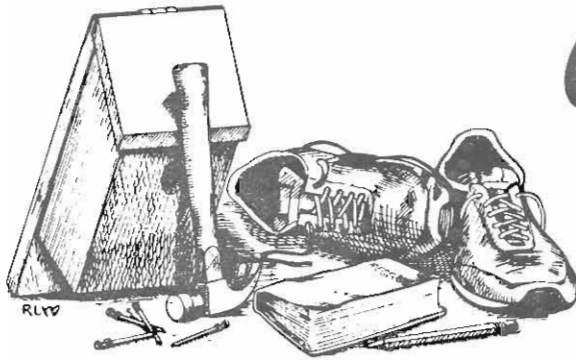


Figure 1. Hardiness Zones for the United States and southern Canada. Temperatures for each zone are the average annual minimum temperatures. When no zones are mentioned with the plant description, plants are hardy anywhere. If a zone is given, it indicates that plants are hardy within the zone and in all areas south of it. Factors within zones such as altitude, exposure, soil type, moisture, etc. can create variations. This map was developed by the Agricultural Research Service of the U.S. Department of Agriculture.



ON THE TRAIL

"On the Trail" is intended to provide succinct information about bluebird and cavity nester trails. Let us know what is happening on your trail. Send trail reports, unusual observations, publicity efforts, etc., to the editor, 10617 Graeoch Rd., Laurel, MD 20707.

MUNCY, PENNSYLVANIA—One of the bluebirds that rehabilitator and bander Christine Schaefer hand-raised during 1983 survived the winter and raised her own young during 1984 on the Seven Mountains Audubon Trail. Schaefer observed a female bluebird accept a nesting box for a nest site on 20 February 1984 which she says is weeks ahead of the normal mid-March date for the area.

BANGOR, WISCONSIN—Steven Kruger, who is doing research on the Eastern Bluebird, has also been giving slide presentations about bluebird conservation. He always supplements his talk with a display to arouse interest.

SILVER SPRING, MARYLAND—NABS Founder Lawrence Zeleny and Executive Director Mary Janetatos were featured in a *Washington Post* article June 7, 1984. The writer followed the two along Larry's trail at the Beltsville Agricultural Research Center which dates to 1966 and annually fledges 100 to 200 Eastern Bluebirds from the 60 boxes placed there.

WOOSTER, OHIO—Ernie Infield in his column "Ramblin' Round the Infield" in the May 30, 1984 issue of *The Daily Record* provided some valuable bluebird publicity. He put up a few nesting boxes "with scant hope, for I had not seen a bluebird on the place for a decade." A box was occupied by a pair of bluebirds and this success encouraged him to the degree that he will expand the number of his boxes.

BRANTFORD, ONTARIO—L.A. Smith reports that he had about 100 successful bluebird nestings during 1984. For the first time in 15 years mammals took no bluebirds from his units which he credits to the fact that 500 posts are now protected by metal wrap.

HUNTSVILLE, ALABAMA—Bill Friday and members of Troop 15 of Huntsville's First United Methodist Church continued to work with bluebirds on Redstone Arsenal for the eighth straight year according to an article in the April 5, 1984 issue of the *Redstone Rocket*. The nesting population currently numbers approximately 100 pairs compared to fewer than 20 pairs when the project was begun. ■

Miracle Meal for Bluebirds

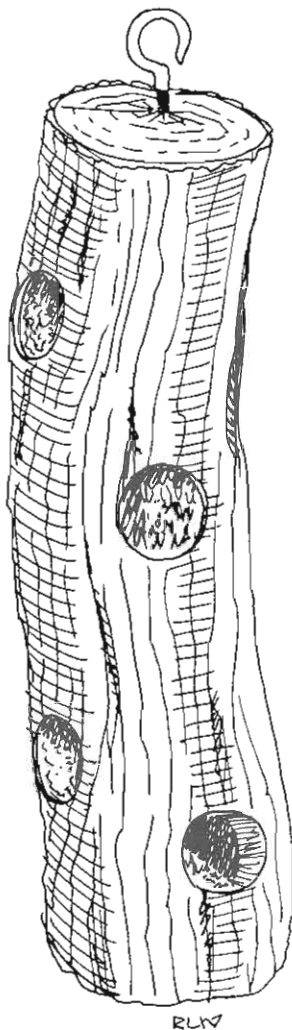
Carol Harmon

"What can we feed bluebirds in winter?" is a question that is asked repeatedly by our members. We hope Mrs. Harmon's suggestion will be helpful to many readers.

Susan Weil in a recent issue of *Sialia* (5(4):136) asked if someone had devised a food for bluebirds in winter. In *Songbirds in Your Garden* John K. Terres provides a recipe for *Miracle Meal* which we have used, with modifications, for many years. The first year we stopped feeding it in late spring when insects became numerous and birds did not seem to need it. The next year so many more species were eating it that we have continued ever since. During the second winter bluebirds began eating it and when spring came they fed it to their nestlings. As the first broods fledged, the males brought them to the yard, while the fledglings perched on the wire fence under the big oak, the various males fed their young with chunks of the mixture. Ever since that time there has been a constant stream of Eastern Bluebirds feeding in the yard year round.

Our recipe consists of one part flour to three parts yellow corn meal placed in the largest mixing bowl of the electric mixer. Add spoonfuls of lard (NOT shortening) and mix until the mixture will make firm balls. The original recipe also called for peanut butter, but when that became scarce and expensive a few years ago we switched to peanut hearts which can be purchased where we purchase bird seed. It works very well. Never add regular bird seed as insect eaters usually do not care for seeds.

We pack this mixture into 1½-inch holes drilled into vertical logs with a hook in one end hung from a tree limb. The second year we also made a horizontal log with holes drilled into the top for birds who cannot cling; however, bluebirds can and do use either one. We now have one of each type in both the front and back yards.



They are used by all the woodpeckers, titmice, chickadees, cardinals, nuthatches, mockingbirds, jays, five or six species of sparrows, wrens, etc. I have to mix such huge quantities of *Miracle Meal* now that I buy 25 lb. bags of corn meal and flour and 25 lb. cans of lard and keep a mixing bowl just for that purpose. I cut down on the amount of lard in the summer as it is apt to melt

in the heat. Every two years the logs become so saturated with lard that has gotten rancid that we discard them and make new ones.

We also trap House Sparrows or shoot them, place them in the freezer, and then put them on a hawk-feeding

platform in the winter where they are much appreciated by kestrels, sharpies, and red-tails—thus all but eliminating predation around our feeder. ■

Route 2, Box 1693
Quinlan, TX 75474

Success in Feeding Bluebirds in Winter

Constance M. Hiteshue

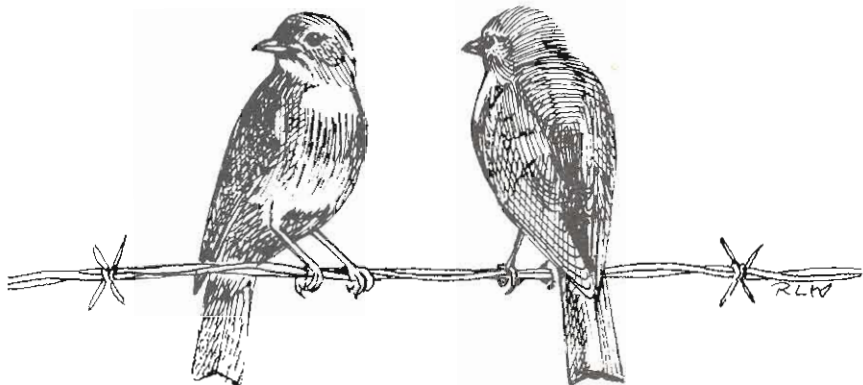
I put out my first feeder in 1982 as well as a bluebird nesting box. Within a week the box was occupied by a pair of bluebirds. Eventually we put out five more boxes on our seven acres.

Although I kept peanut hearts and shaved suet on the feeder at all times, I did not have bluebirds at the feeder until 18 March 1983. Since that time they have come 10 to 15 times a day. Several broods were raised in large part by food from the feeder. The young bluebirds never did eat from the feeder, although they would sit on the roof while the adults ate.

The winter of 1983-84 was an exceptionally hard winter here: freezing rain, sleet, snow, and sub-zero temperatures. Four pairs of bluebirds came to the feeder regularly; however, a problem developed. A large flock of Even-

ing Grosbeaks also came to the feeder with great regularity and they did not leave when the bluebirds came, so the bluebirds were not able to feed. I had noticed that the bluebirds always checked the nesting box closest to the feeder when they came near the house, so I began putting peanut hearts and shaved suet in the nesting box so that they had their own private feeder. Several mornings I had to clear icicles from the entrance when I saw the bluebirds fluttering in front of it. Eventually, the grosbeaks left and it was time to think about using the nesting box for nesting. I removed the food from the box and the bluebirds now use the regular feeder again. ■

R.D. 2, Box 664
Bedford, PA 15522



BLUEBIRD POSTURE: Understanding Bluebird Behavior

Jon E. Boone

The postures bluebirds display are important to their survival and provide clues to understanding their behavior. Like all other organisms, birds behave in characteristic ways. Their actions are usually extremely efficient, yet mannered, often ritualized. The expression, "free as a bird," is a fanciful notion for they are held captive by special, mostly hereditary, behavior patterns which give them the liberty to purchase life itself and allow them elbow room to fashion an accommodation with their habitat.

No one should claim to know how or what a bluebird "thinks." The working scientific assumption about bird behavior is grounded in the belief that avifauna act to increase the chances of survival, to remain healthy, and, if possible, to grow in numbers. The degree to which bluebirds are conscious of any motivation to gain these ends is, at best, unknown. However, a number of people have observed bluebird behavior over a number of years and have discovered behaviors which are highly predictable and seem to correspond with concrete situational stimuli. It may be that one bluebird appears to act "friendly" or "motherly," as those terms are applied to human activity, but, to a considerable extent, all bluebirds will display similar behavior, given similar circumstances.

Ornithologists have defined a number of behavioral categories to study bird activity. I will discuss four of these broad categories and illustrate behavioral features peculiar to each. By watching bluebirds closely and taking note of variables such as time of year and a number of environmental factors, you will see how repetitious and predictable their behavior is. In the process observe how the actions con-

tribute to the birds' welfare, adding a healthful diversity and beauty to our natural world.

MAINTENANCE ACTIVITIES

Maintenance Activities promote general health and efficiency and allow bluebirds to move about. Many of the display postures serve as the basis or template for other, more sophisticated displays (e.g., courtship, aggression), and they occur throughout the year. There are many examples ranging from body care, feeding and foraging to locomotion and roosting. Figure A shows a basic maintenance activity, BILL WIPING. This display is quite common, with the bluebird scraping the bill several times from base to tip, using both sides of the perch. The bill is kept cleaned and well honed at the same time. With its bill a bluebird can reach and clean all parts of its body except the head and neck. These latter areas are maintained by the feet, which in turn are cleaned by the bill. Figure B illustrates another maintenance activity, SUNNING. Bluebirds usually spread both wings, turning their head to one side. Aside from the obvious contribution to body health, much evidence exists that

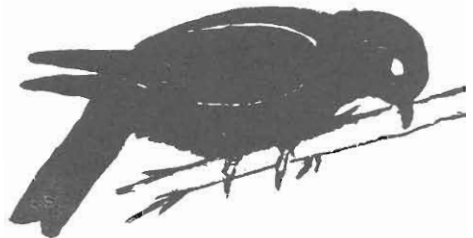


Figure A. Bill Wiping.



Figure B. Sunning.

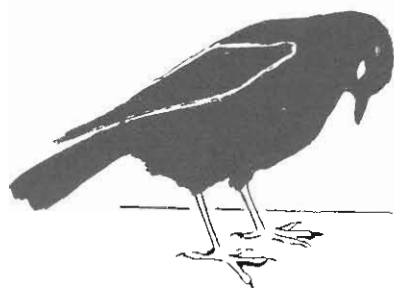


Figure C. Nodding

this activity, as well as most other maintenance displays, reinforce social bonds. For example, bluebirds on a territory have often been seen sunning together. Figure C renders a NODDING posture. Nodding is a deliberate downward head movement with the bill pointed directly at the perch. The nod may be successively repeated as the bird inspects its belly region or feet and preens them, if necessary.

AGONISTIC BEHAVIOR

Agonistic Behavior describes activities related to aggressive and defensive fighting, escape techniques, and various degrees of passive behavior. Each posture has a role in defining one bird's relationship to another. Even though this category suggests struggle, these behaviors ultimately mitigate against conflict and help to establish an orderly way to transact business within the flock, in courtship, and in territorial acquisition. These are nonetheless subtle

behaviors, with minute changes in posture and gesture eliciting in turn corresponding postures which are often inversely proportionate to the initiated posture. Directly proportional responses usually escalate conflict with the result that occasional physical altercations happen. These are rare, however. A snapping bill may be analogous to a profane human tirade—and the latter expression of anger is often sufficient to resolve whatever issue caused it. There are a number of examples of this kind of behavior including supplanting attacks (where one bird attempts to occupy the perch of another), chases, actual fighting and pecking, various threat postures and displays, diverse vocalizations, alarm postures, appeasement postures, and a variety of displacement behaviors. Displacement is complex and provocative. What does a bluebird do when faced with two mutually strong but conflicting impulses—to attack and to flee? Why, it cleans its bill, of course, or displays some other behavior that seems equally irrelevant and out of context.

Figure D shows the bluebird in an ALERT posture which indicates mild fright; in this position the bluebird stiffens its body and raises its head to obtain a better view of the terrain. Figure E illustrates CROUCH posture, a more extreme alarm position. Many nestlings assume this posture when a nesting box is opened. Figure F represents typical agonistic behavior concerned with escape and attack intentions. Both birds are threatening each other with FACING and GAPE postures. Facing is the simplest threat action for the bluebird and is used when one bird comes too close for the comfort of the other. Gape probably signals an intention to bite and reflects a stronger tendency to attack than to flee. The larger the Gape, the stronger the attack motivation. The bluebird on the right is also displaying a HEAD FORWARD posture, a very strong attack tendency. Again, such gestures rarely lead to violent physical contact, but do contribute greatly toward establishing a necessary order in the flock.

Figure D. Alert.

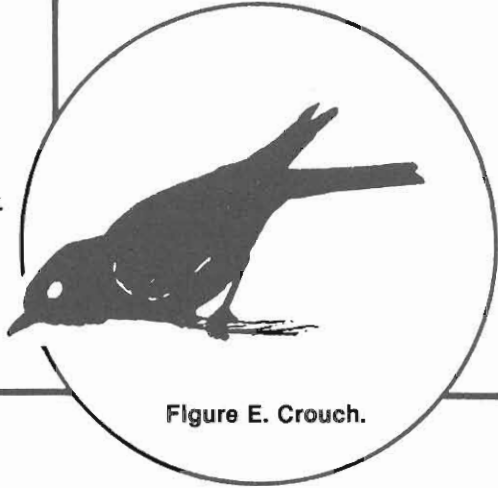


Figure E. Crouch.



Figure F. Facing and Gape.

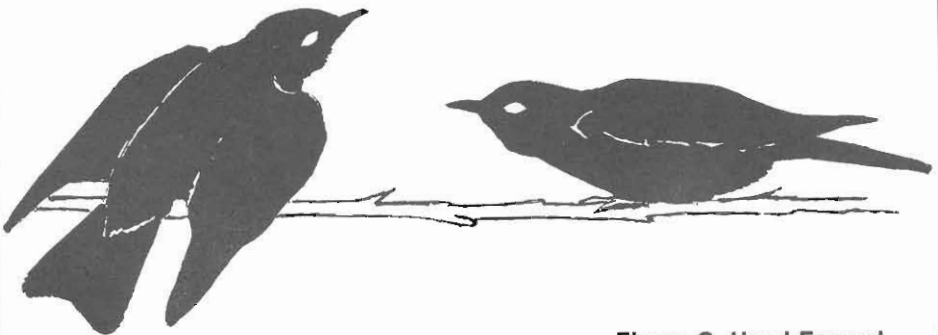


Figure G. Head Forward.

Figure G represents two types of threat posture. The bird on the right is in a HEAD FORWARD display. If that is combined with other gestures such as GAPE and BILL SNAP, it will produce a strong attack intention. Head Forward is a common threat posture among all passerine birds. The bird on the left shows the WINGS OUT display, often a prelude to a strong aerial attack as the bird dives at its adversary, snapping its bill and pounding its wings in the process.

Figure H illustrates TURNING-AWAY, or appeasement behavior, with the bird on the right showing a much greater degree of submissiveness. This posture is quite common during courtship. If, after the male feeds the female, one or both birds turn-away from each other, one or both

demonstrate a fairly weak escape intention, giving the bird(s) a nonaggressive appearance and quelling any perception of attack. FLUFFED POSTURE (Figure I) is another sign of appeasement behavior. It shows an absence of aggressive tendencies, perhaps fending off the likelihood of attack by another bird. This display is often associated with an intention to escape or flee, and is assumed by many bluebirds (particularly the female) during pair formation.

WING-FLASHING (Figure J) is sometimes given by captive birds as an alarm reaction when birds are confronted with an unfamiliar object or situation. It seems to be the same display as shown by mockingbirds, but for different reasons. Wing-flashing in bluebirds is fairly uncommon behavior however.

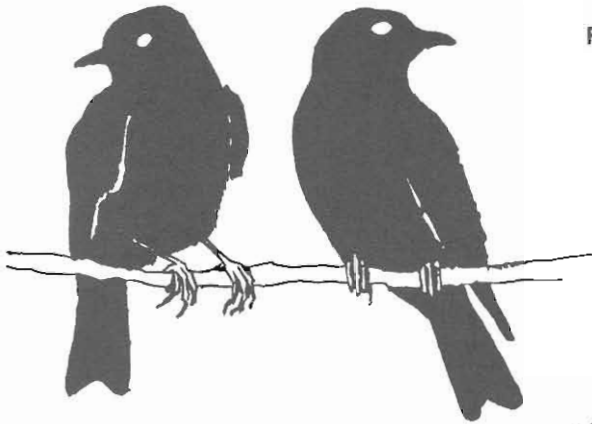
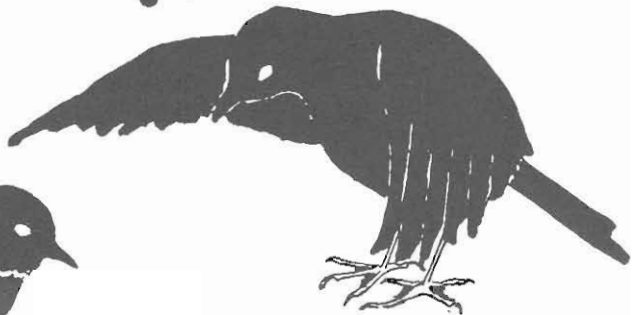


Figure H. Turning-Away.

Figure I. Fluffed Posture.



Figure J. Wing-Flashing.



TERRITORIAL ACTIVITY

Territorial Activity initially involves the demarcation and advertisement of territorial boundaries. Bluebirds use postures to signal possible competitors. Territory must contain an appropriate nesting site *and* be sufficiently large to contain a sufficient food supply with which to raise one or more broods. There are many kinds of displays here with aerial and non-aerial activity, many calls and songs, and many defensive postures.

Since the nesting hole is the most important element in bluebird territory, look for a highly ritualized NEST

DEMONSTRATION DISPLAY when the unmated male is advertising his possession of a precious worldly good. This display has many variations from start to completion; however, the figures K, L, M 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 at the hole with tail spread and wings partly open showing the blue color of his back conspicuously (K). While at the hole he often looks around, showing his face.

Figure K. Nest Demonstration Display.

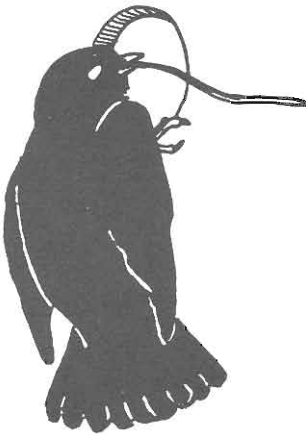


Figure L. Nest Demonstration Display.

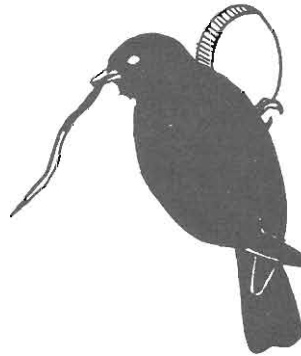
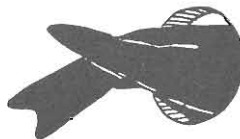


Figure M. Nest Demonstration Display.



This face-showing probably has some signal value and appears to be somewhat ritualized (L). The bird may then start to rock back and forth putting his head and shoulders inside with every forward rock (Figure M, left). Finally, the male enters the cavity and, as he inspects, may peck at the sides and floor (Figure M, right). Before leaving the box the bird will show his face before ducking inside. Often the male will depart the nesting hole, HOVER for one or two seconds a few feet from the cavity, then return immediately.

COURTSHIP BEHAVIOR

Finally, **Courtship Behavior** often follows a stylized pattern of displays, all performed to bond the male and female together and to a particular territory for the ultimate purpose of procreation. In many ways this brings out the most complex behavior since it brings out three incompatible tendencies—to flee, attack, and mate. All three tendencies are often expressed at the same time. They evolve in a progression beginning with an attack, extending to a series of escape behaviors which then lead to a series of passive displays, and ultimately to copulation.

Figure N depicts an **OBLIQUE SLEEK DISPLAY**, a common posture when the male is advertising his territory, especially near the nesting box. As the female approaches the box, the male droops his wings, raises his bill slightly, and spreads his tail thus presenting a "mass of blue" to the female. There are variations consequent to this display.

In the **WINGS-RAISED SLEEK** posture (Figure O), the male faces the female near the nesting box and, with his body nearly horizontal and tail spread, gives strong evidence of attacking his prospective mate. Often this attack is carried out and chasing sequences begin during the early stages of courtship. Later, this posture becomes a precopulatory display. Figure P illustrates a **WING-LIFTING** posture and is a common sight during courtship showing an activated sexual tendency. Unpaired males rarely show this posture unless a female is in the vicinity. Once the male becomes aware of the presence of the opposite sex, he immediately begins this display. The **WING-LIFTING TAIL-UP** display of the female (Figure Q) is a sure sign that spring has arrived for it indicates behavior that signals the male bluebird to "come hither."

Figure N. Oblique Sleek Display.

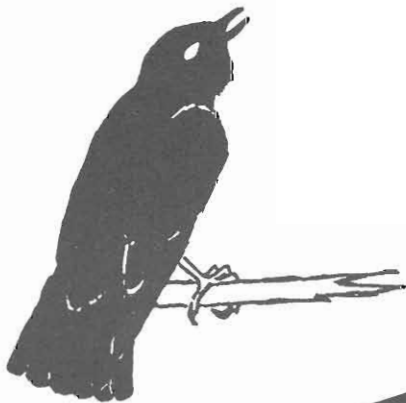


Figure O. Wings-Raised Sleek.

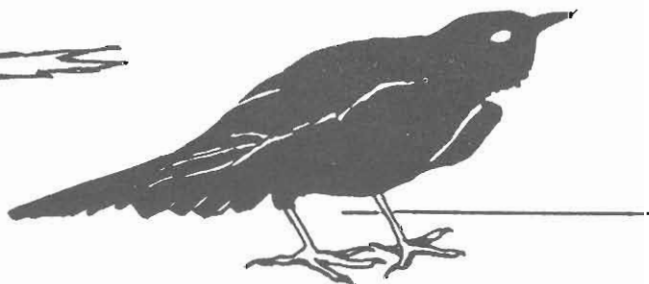


Figure P. Wing-Lifting.

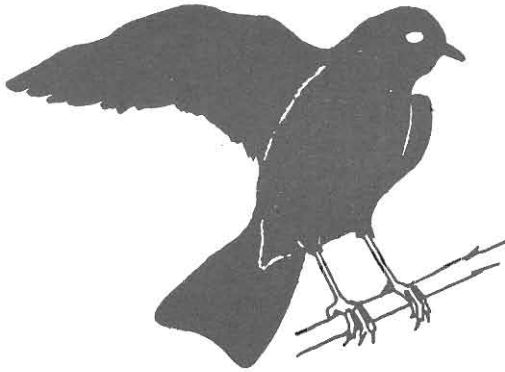


Figure Q. Wing-Lifting Tail-Up.

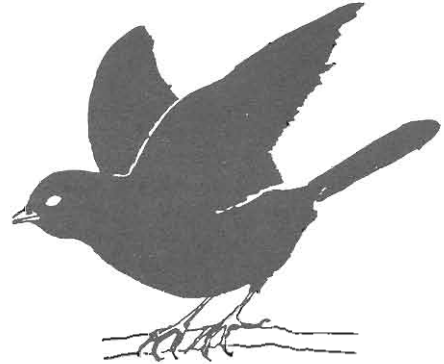
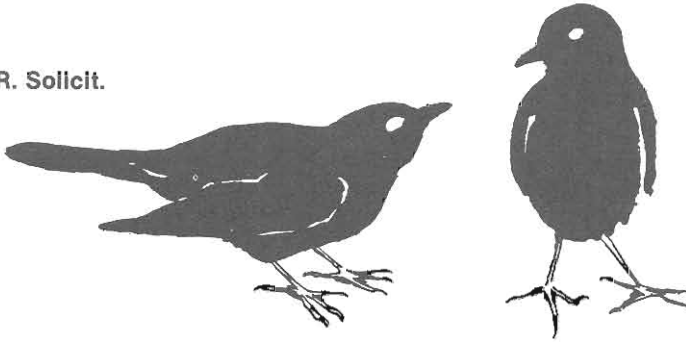


Figure R. Solicit.



All figures by Jon E. Boone

During courtship there are displays for the male and female alone, and there are mutual displays acted out in tandem. These include a number of nest demonstrations, sexual chases, courtship feeding, and copulation. Many of these are rooted in agonistic behavior. Figure R shows a female bluebird, at left, in a classic SOLICIT posture. She crouches, sleeks her feathers, points her bill upward, and keeps her tail level raising it higher as sexual intensity is increased. This soliciting posture is often preliminary to actual copulation. At right, the male demonstrates, however, a rather low intensity threat or even attack display. From this position the male will often land on the soliciting female's back and repeatedly peck her head. This AT-TACK behavior almost always precedes copulation, although it is often difficult to determine if the male is attempting actual copulation or just attacking the female. In many cases, if

the male in this position depresses his spread tail, copulation does in fact result.

There are, of course, many other behavioral patterns, and thousands of variations on each. Cataloging them is arduous work, but the patterns which emerge fascinate, and the research may shed light on human conduct. David C. Krieg, in his "The Behavioral Patterns of the Eastern Bluebird" (New York State Museum and Science Service Bulletin number 415, 1971), provided the foundation for this article. I am grateful to him and others who have shown us the true meaning of the phrase, bird watcher. ■

9505 Good Lion Road
Columbia, MD 21045

A number of the bluebird postures described in this article were published previously in *Sialia* 1(1-4) and 2(1) during 1979 and 1980.

QUESTION CORNER

Lawrence Zeleny

We observed Tree Swallows chasing a bluebird away from a box. I keep dispossessing the swallows and they keep coming back and we haven't seen the bluebird since. How can one keep the swallows away?

**Mrs. John LeViness
South Paris, Maine**

Tree Swallows are highly desirable birds and should not be discouraged. However, when they are quite numerous they often compete seriously with bluebirds for nesting boxes, particularly in the northern states and in Canada. One method of dealing with this problem is to mount nesting boxes in pairs, the two boxes in each pair being placed about eight to ten feet apart. Ordinarily, neither the bluebirds nor the swallows will nest that close to others of their kind, but they seldom object to having close neighbors of the other species. Readers are urged to report their experiences with this or other methods of coping with this problem.

Your book describes a roosting box. Are such boxes better than leaving the regular nesting box out during the winter?

**Kathleen A. Kotila
Seagertown, Pennsylvania**

Roosting boxes of the type referred to provide somewhat warmer sleeping quarters than do ordinary nesting boxes. However, it has been observed that bluebirds are generally more likely to accept nesting boxes for roosting in winter than the specially-made



roosting boxes. This is probably because the nesting boxes seem more familiar to them. For this reason the advantage of the special roosting box may be somewhat questionable.

When Prothonotary Warblers nested in one of my bluebird boxes, I left the nest intact after the first brood hoping to encourage a second nesting. They did not reuse the box and nest. Should I have left the nest in the box?

**John Findlay III
Birmingham, Alabama**

Generally, it is advisable to remove the nests of native passerine cavity nesting birds from nesting boxes as soon as possible after the young birds have left their nest. This is desirable for sanitary reasons and to remove any parasites that might be present. Also, most birds seem to be more likely to use the same box for subsequent broods when the old nest is removed.

We are not sure that Prothonotary Warblers react in the same way as other birds to the removal of their used nests. Perhaps some of our readers in the South who have had experience with this species in nesting boxes will give us the benefit of their experience. Prothonotary Warblers in the southern part of their breeding range frequently produce two broods in a season. ■

Agricultural Ornithology

R. Michener

In our continuing effort to obtain historical perspective on our cavity nesting birds, we reprint a portion of a report by the House of Representatives made more than a century ago. Our thanks to Rod Botsai of Ellicott City, Maryland, for bringing it to our attention.

Insectivorous Birds of Chester County, Pennsylvania

“In the construction of the universe the Divine Architect, whose creative conceptions and consummate arrangements display the perfection of wisdom, formed it a harmonious whole, amply provided with well-regulated checks and balances. So long as these adjusting powers were not disturbed by extraneous forces, interposed by human agency, an inordinate increase of noxious insects was restrained by the physical operation of the elements, and by the instincts and natural propensities of certain insectivorous animals. Among the latter may be enumerated many of the smaller quadrupeds, reptiles, insectivorous birds, and the parasitic and predacious insects.”

“The harmony of creation has been interrupted by the wanton destruction of birds and reptiles, and by the intervention of other causes; and in consequence of this derangement in the economy of nature, the insect vegetable feeders have become more abundant, and consequently more destructive.”—Dr. Brinkle.

It must be plain to all observers that most of our common birds are partly, and many of them almost wholly, insectivorous—that is, insect-eaters. We cannot, for a single hour, watch their movements, their industry and dexterity in capturing insects, without being impressed with the vast numbers which they must every day devour. It is no less certain that the number of birds is being constantly and rapidly diminished from year to year. We need not, therefore, feel surprised that, in proportion as the number of birds has been diminished, the insects have increased in a corresponding ratio. Reason should have taught us that it would be so, and experience has verified the fact; and we can hardly err in ascribing the increase of the one to the decrease of the other. Hence it becomes an important inquiry, What are the causes which have so greatly reduced the number of our birds? In pursuing this inquiry it will be convenient to divide them into forest birds and field birds.

The forest birds appear rather to shun the company of man, and to recede as the arts of civilization advance. This may be owing in part to the destruction of the forests, which afforded them both food and shelter, and in part of the wanton destruction of them with their eggs and nests. It is some consolation, however, to reflect that forest birds feed mostly on forest insects, and therefore do not so immediately affect the interests of the agriculturists as those which dwell in the fields.

The field birds, on the contrary, seem to court domestication, and to seek the protection of man by their familiar approach to his dwelling. They incline to accompany the settlements, and delight to dwell in the field, the orchard, or the garden. Living, as they do, in the very midst of those scenes of insect devastation of which

R. Michener, M.D., "Agricultural Ornithology," in *Report of the Commissioner of Agriculture for the Year 1863*. House of Representatives: 88th Congress, 1st Session, Ex. Doc. No. 91. 1863. Washington: Government Printing Office.

we so often complain, and feeding, as most of them do, on the authors of that devastation, we must be blind, indeed, not to perceive how much we owe to them as a direct check upon the increase of noxious insects.

It is not the more familiar species only which instinctively seek man's protection. Even the shy and retiring forest birds will sometimes do so in seasons of extreme peril. I have seen the timid and wary pheasant, when pursued by a hawk, alight on the ground within six feet of my door, where I was standing, and quietly remain until the danger had passed by, apparently well assured that the enemy would not molest it while there, and rightly judging that I would not betray the confidence reposed in me by doing it an injury.

Now, if it be so that the birds were designed to maintain the balance of insect life, and prevent their inordinate increase, how unwise in us to break the balancing power by their wanton destruction! But the birds have been cruelly and most unwisely persecuted. The balance has been broken, and an increase of destructive insects from year to year has been the consequence. The question then arises, how shall we restore the balance which has been lost? The simple answer is, as in every other case of wrongdoing, "cease to do evil; learn to do well." Cease to violate the laws of nature, and of nature's God, by the destruction of these his creatures, and by every available means afford them protection, and promote their comfort and consequent multiplication.

But to whom shall the plea for their protection be addressed? It is not the cultivator of the soil alone who sustains loss from the depredations of insects upon his crops. When these fail the supply is diminished, and the market value enhanced. Hence the consumer suffers along with the producer. The appeal, therefore, comes home to every one who subsists on the productions of the soil. It affects the pecuniary interests and the life comforts, not only of him who holds the plough, but of the merchant at his desk, and the cobbler in his stall. It is made, not to a class, but to the whole community. Nevertheless, the owners and occupiers of the soil—the agricultural class—hold a position which seems, necessarily, to constitute them the special guardians of the feathered race. To them, therefore, I particularly address this special plea.

Appeals for the birds have often been made, and have as often passed unheeded. Their constantly diminished numbers still suffer unmerited persecution, and the complaints of noxious insects grow louder and stronger from year to year. Why is it so? Are men so willfully blind to their own interests? Or has the evidence furnished been insufficient to convince their understandings that the birds are really their friends and benefactors? This seems the most rational conclusion. Farmers, as a class, cannot be called scientific, but they are intelligent, reflecting, practical men, accustomed to look after their own interests; and if convinced that those interests lie in the protection of the birds, I have a better opinion of them than to suppose that they would not adopt a practice correspondent therewith.

Under this feeling of confidence in the good sense of the farming community, I have undertaken the preparation of this plea on behalf of the birds. Peradventure, a brief detail of facts may satisfy the reason, while mere inferences drawn from them would fail to do so.

Let every farmer and occupier of the soil cease from the needless destruction of birds, their eggs and nests, and consider himself as their Heaven-appointed guardian. Let every one be careful, according to his opportunity and means, to provide for their wants by putting up suitable boxes for martins, bluebirds, wrens, &c., and by planting shrubbery and trees, especially evergreens, to afford them shelter from their enemies, and a place to build and rear their young. Let every child be taught to admire the beauty, and to know the value, of birds, and the sanctity of their

nests, and be made to feel the penalty for disobedience. Let every vagrant sportsman and truant schoolboy know and feel the rigid restraints of the law* whenever they trespass upon the premises with dog or gun after having been duly notified.

The following extract taken from the *Ohio Farmer* several years ago is worth preserving in this connexion [sic]:

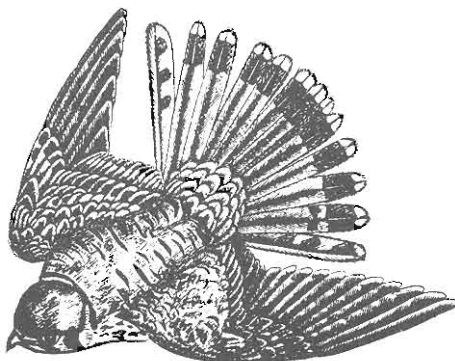
"On no pretext whatever should farmers and gardeners permit their birds to be disturbed. Instead of killing them, or frightening them away, they should make use of every means in their power to induce them to increase in numbers, and become more tame and familiar. The worst of them earn twenty times what they eat; and then what exquisite pleasure to have your garden, yard, orchard, or wood alive and vocal with the music of merry birds! Plant trees for them; if necessary, build houses for them; and let no cat, dog, or boy ever molest them, and they will teach you lessons of domestic bliss, preach you sermons, and warble you such hymns as you never heard elsewhere. Be kind to the birds."

In the preparation of this paper my primary object has been to furnish a brief economical history of the ordinary food and feeding habits of the different species of birds. I have also endeavored to make it an exponent of the ornithological fauna of the district which it represents, thus interposing a connecting link between economical and scientific ornithology. It may be objected that the district is too limited to afford satisfactory results. The objection is more specious than real. Many of the Chester County birds are found throughout large portions of the United States, while others are replaced by kindred species possessing similar habits. To extend the basis, therefore, would greatly increase the labor and cost, without adding much to the value of the work.

The author then lists dozens of species according to several classifications with attributes and habits. Only a portion, mostly cavity nesters, are reproduced below. Readers will recognize that statements are sometimes made which have since proved erroneous. Names are those used by Michener; current common names are shown in brackets.

Sparrow Hawk [American Kestrel]. Resident, common; less so in winter; carnivorous. As its name implies, it feeds on sparrows and other small birds, field mice, shrews, and small reptiles.

White-headed Eagle [Bald Eagle]. Wandering, not common; piscivorous. The principal food of the bald eagle is fish, and this is mostly plundered from the fish hawk; sometimes preys on ducks and other water birds; when these fail, he will even feed on carrion, and, like his older brother, attacks lambs, fawns, pigs, &c. Instances are related



American Kestrel

*Many States have made laws for the protection of birds. An act of the legislature of Pennsylvania, of April 21, 1858, provides:

"Sec. 1. It shall not be lawful for any person within this commonwealth to shoot, kill, or in any way trap or destroy any bluebird, swallow, martin, or any other *insectivorous* bird, at any season of the year, under the penalty of two dollars."

"Sec. 4. That no person shall at any time willfully destroy the eggs or nests of any birds mentioned in the different sections of this act, within this commonwealth, under a penalty of two dollars for each and every offence."

"Sec. 6. And if the offender shall refuse to pay the said forfeitures, he shall be committed to the proper county jail, for every such offence, for the space of two days, without bail, or any mainprize."



Bald Eagle

of his seizing small children and carrying them away to his nest.

Barn Owl [Common Barn-Owl]. Winter resident, rare; carnivorous. "I am satisfied that our bird feeds entirely on the smaller species of quadrupeds." (Aud.) This, of course, refers to mice and other nocturnal animals.

Red Screech-Owl [Eastern Screech-Owl]. Resident, common; carnivorous; preys on mice, small sparrows, &c., and very often catches nocturnal beetles and other insects. It thus destroys a large number of field mice, and the large cockchafer, so injurious

to our fruit trees. In winter it familiarly enters our barns and outhouses, where it becomes an expert and industrious mouser.

Mottled Owl [Eastern Screech-Owl]. Resident, common; carnivorous; habits similar to the last.

Observation.—Most ornithologists consider the red and gray screech-owls identical. This may be so. Bonaparte, Audubon, and others say the *red* is the young and the mottled the mature bird; others just reverse it. Audubon says the "feathers change their colors as the pairing season advances, and in the *first spring* the bird

is in its perfect dress;" consequently the young or red birds could not be expected to breed; yet I have found red parents with a red brood, and also mottled parents with a mottled brood. Although presenting an anomaly perhaps unknown in any other species of bird, I have therefore reseeded them for the present.

Hairy Woodpecker. Resident, common; insectivorous; feeds on the larvae of insects, and on the insects themselves; although in autumn it seeks berries, &c.

Downy Woodpecker. Resident, common; insectivorous; habits and food similar.

Chimney Swift. Summer resident, abundant; insectivorous. If the reader will reflect on the myriads of insects which fill the air on the approach of eventide, and watch these birds, as they wing their rapid flight in ceaseless circles, gathering their evening repast, he will not grudgingly endure the little annoyance which they may occasion in his chimney.

Bluebird [Eastern Bluebird]. Resident, very common; rare in winter; insectivorous. This favorite of every household, the lovely and confiding bluebird, seeks its food on the ground among grass. It seems to prefer coleopterous beetles, but also devours other insects, caterpillars, spiders, &c., and sometimes ripe berries. It well repays the use of the box, so often provided for its habitation.

Prothonotary Warbler. Summer resident, extremely rare; insectivorous; feeds on small insects, worms, caterpillars, &c.

Cliff Swallow. Summer resident, now become frequent; gregarious; insectivorous. Its feeding proclivities are similar to the Barn Swallow. This bird was unknown here until within the last twenty years. Being gregarious and of a wandering habit, it has established various colonies in the county within the period mentioned. Its curious, bottle-shaped mud tenements may now be



Common Barn-Owl

seen beneath the eaves of buildings in several localities.

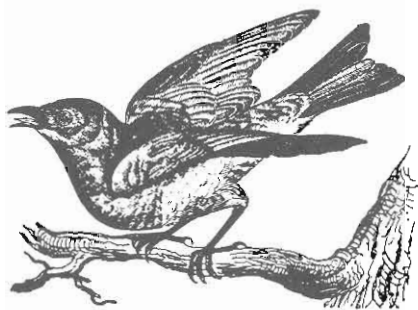
White-bellied Swallow [Tree Swallow]. Summer resident, frequent; insectivorous. "Like all other swallows, it feeds on the wing, unceasingly pursuing insects of various kinds." Once the tenant of the forest, it is fast changing its habits, and in some parts has taken possession of martin-boxes in preference to hollow trees.

Purple Martin. Summer resident, abundant; gregarious and insectivorous. Familiarly domiciled in the martin-box, our bird seems specially commissioned to rid the neighboring premises of noxious insects....

House Wren. Summer resident, common; insectivorous. "Our bird keeps up frequent squabbles with his neighbors, like other busybodies that are never happy but in mischief. He is still, upon the whole, a real friend to the farmer and horticulturist, by the number of injurious insects and their destructive larvae, on which he and his numerous family subsist." (Nutt.)

Tufted Titmouse. Resident, frequent; insectivorous. This well-known species seeks its food in summer in crevices and among rotten wood; in winter it has recourse to seeds and small berries, in addition to refuse from the kitchen and garbage from the butcher's stalls.

Black-capped Titmouse [Black-capped Chickadee]. Resident, frequent; insectivorous. "Feeds on insects, their larvae, and eggs of destructive moths; especially those of the canker worm, as well as every sort of small fruits, berries, and seeds." ■



Eastern Bluebird

Illustrations of bird species in this article are nineteenth century wood engravings taken from Animals: A Pictorial Archive from Nineteenth Century Sources. Selected by Jim Harter. Copyright © 1979. New York: Dover Publications.

NORTH AMERICAN BLUEBIRD SOCIETY RESEARCH GRANTS

The North American Bluebird Society provides grants-in-aid for ornithological research directed toward cavity nesting species of North America with emphasis on the genus *Sialia*. Presently three annual grants totaling \$3,000.00 are available consisting of varying amounts, generally stipends of \$1,000.00 are awarded and include:

Student Research Grant—Available to full-time college or university students for a suitable research project focused on a North American cavity nesting species.

Bluebird Research Grant—Available to student, professional or individual researchers for a suitable research project focused on any of the three species of bluebird from the genus *Sialia*.

General Research Grant—Available to student, professional and individual researchers for a suitable research project focused on a North American cavity nesting species.

NABS encourages, but is not limited to, specified areas of study designed by the Research Committee on an annual basis. These specific areas of study will receive additional weight when individual proposals are evaluated.

Further guidelines and application forms are available upon request from Theodore W. Gutzke, Research Committee Chairman, Des Lacs National Wildlife Refuge, Box 578, Kenmore, ND 58746. Completed applications must be received by January 31, 1985; decisions will be announced by March 15, 1985.

Bluebirds Outfox a Hawk

Lillian Lund Files

One Sunday morning in August 1979, four bluebird nestlings were ready to fledge. Around 7:00 a.m. I heard the familiar chirping noise of the parents trying to entice their young out of the nest. About 8:00 a.m. I went to investigate this nesting box just outside my kitchen door and saw that one nestling had already "flown the coop." Because I was preparing for a luncheon party that day, I knew I would not have the time to monitor the fledging process as I normally love to do.

While working in the kitchen around 11:30 a.m. I noticed a dead silence in the field and thought perhaps the other three nestlings had fledged. I went outside to investigate the box again, expecting to see an empty nest, but was amazed to see the three nestlings still inside. I closed the box gently and stepped back, perplexed. I happened to look up at my flagpole (which is only 30 feet from the bluebird box); there sat a hawk watching the box. Naturally, I chased the hawk around the field

until it finally left.

By this time my guests were arriving and I was torn between my concern for the bluebirds and my guests. I tried to keep an eye on the box off and on all afternoon. I noticed that the three remaining nestlings had never been so well fed. The parents were stuffing them instead of restricting their food as they would normally do on fledging day. They apparently did not want their young to come out of the box while the hawk was in the vicinity. The one bird which had fledged sat in a nearby tree. She was also getting her share of food. The balance of the clutch did not fledge that day.

On Monday I was up at dawn to watch the box. No hawk was around so the adults successfully enticed their three remaining offspring out of the nest by 11:00 a.m.

The actions of the adults demonstrate the adaptability of which bluebirds are capable in order to protect their young. ■

Scribner Hill
Tyngsboro, MA 01879

Interesting Behavior in Eastern Bluebirds

Florence Germond

The bird that we all think of as very mild, gentle and certainly unaggressive has fooled some of us in Dutchess County this season.

A phone call came from a lady who had a pair of bluebirds nesting in a box in her yard describing a male bird coming to the screen door everyday.

He clung to the mesh and finally made a hole nearly an inch in diameter. She wondered "why"—but who knows?

Another host to nesting bluebirds had the pair coming to a window, flying into it repeatedly, scratching the glass as they slid down full-length, then returning to the top to slide down

again. Both male and female did this for days.

I have been banding young bluebirds for three years now and most parents sit on a wire or nearby tree chattering a bit but not appearing very upset. Occasionally a pair will fly above my head back and forth, but this summer I had the first of the clutch in my hand with band ready to place on the leg, when an adult flew from somewhere (I had not heard or seen it at all) and *hit* my head!

I usually wear a hat but was banding these nestlings on the way home from church so I was not in birding clothes. Before I could get a second bird out of the box, I was hit three more times on the top of my head. I gave up. I

suffered no injury, of course, but if the parent (I never saw it, so do not know if it was the male or female) felt that strongly I would leave the nestlings alone.

In spite of locating our boxes in open areas away from hedgerows and houses, we suffer considerable predation from House Wrens, however, bluebirds are winning in at least two cases on my trail: a bluebird nest on top of a wren nest! Both successfully reared young in high-rise nests. Interesting observations and certainly all of them showing little fear of human beings and some ingenuity where wrens are concerned. ■

Shunpike 254
Clinton Corners, NY 12514

Wyncken, Blyncken and Nod

Dennis W. Brezina

Unlike the two little eyes and the little head portrayed in Eugene Fields' lilting poem, ours is a trio of bluebirds that have bonded together through an initial brood this spring and now into a second.

We've had a pair of bluebirds stay the winter before, appearing intermittently along the fence row or calling plaintively from a tree top. But this winter a flock of several males and a couple of females frequented the yard, no doubt attracted by a new feeder (thanks to Joe Huber's idea in *Sialia*) festooned with sumac bobs, wild grapes and multi-flora rose hips.

With the first blush of spring, what would have been more natural than for one pair to nest in either of the two bluebird boxes occupied each of the last four years?

It didn't happen that way. Sure, a pair stayed. But so did an extra male. The three birds perched as close as five feet to each other on the telephone line near the box. All three were active in feeding the young birds. Neither of the males made any effort to chase off the other male during frequent daily observations.

The young birds have fledged. Another nest has been started. And now six birds perch together on the wire—the three youngsters and Wyncken, Blyncken and Nod. ■

4566 Solomons Island Rd.
Harwood, MD 20776

Waiting for Bluebirds

Kenneth Jankowski

I have had a bluebird trail for six years. In 1981 I had 30 boxes but I had given away 156 boxes to people with whom I work. Most of them took them home and raised sparrows. I told them to remove the sparrows but they couldn't. That is when I started being choosy about who I gave boxes to. By 1982 I had increased my trail to 76 boxes: 40-4x4 inch, 30-5x5 inch, 4 screen-top, and 2 plastic jugs. I had two Tree Swallow nests that year. They were beautiful birds.

On 6 November 1982 my wife and I saw two male bluebirds in our backyard. We watched them for 30 minutes; they were the first bluebirds we had seen in this area. Maybe they noticed all my boxes. We hoped they would return the following spring. That year two boxes were used by Tree Swallows: one was at a golf course and the other on a farmer's fence line about 200 yards from the barn. Seven swallows fledged from the two nests.

At the end of March 1983 I saw a total of 23 bluebirds. I think a heavy snow during that time caused them to stay in a small area. During 1983 I had 114 boxes, 30 of which I put out in May. If they had been put out sooner it might have made a big difference. On 11 April 1983 there was a bluebird nest in a box on a chain link fence in a cemetery. On 14 April I found a dead male bluebird in a box on the golf course. A House Sparrow was remaking the nest for its own use. The bluebird had a band so I reported the number to the Bird Banding Laboratory in Laurel, MD, and found that the bird had been banded in Galesburg, MI, on 27 May 1981.

The bluebirds nesting in the cemetery were having bad luck. Something took one egg each week. On 9 May 1983 when I looked in the box, it was empty. While I removed the nest the male bluebird dived at me. I felt bad removing the nest, but everything I had read indicated that I should take the old nest out.

On my way home from the cemetery, a mile from my house a bluebird flew in front of my car. I had noticed that the people in the house near that point had a box so I stopped to talk to them. They had had bluebirds for three weeks. I have 120 bluebird boxes and he puts up one and gets a bluebird. At any rate we did have a bluebird nest that had five eggs of which four hatched and fledged. During the 1983 nesting season we had nine Tree Swallow nests of which 36 young fledged and 3 died.

During a vacation in Benton, KY, we checked the three boxes that we put up two years ago. We saw a male, female and three young bluebirds sitting on a wire near a box which had an old nest in it.

I went jogging one day and met a woman who belongs to NABS: Mrs. C.W. Reynolds. She had a box in front of the house that had fledged three young and another nesting box behind the house that had two eggs in it. I gave her another box.

I also have some boxes on land between the lakes. A bluebird was nesting at the information center. I gave a box to Mrs. Fern J. King who works at the center.

This year I have 130 boxes out and 3 more jugs. A pair of bluebirds have been in my backyard for two weeks and started building 23 April 1984. I have put 18 boxes in a nearby park, 4 of which are already being used by Tree Swallows.

Some readers might want to try using Vaseline as I do on the inside of the top of the box. It really keeps the wasps away because they can't stick to the roof.

I'm looking forward to greater success each year in attracting bluebirds and Tree Swallows. ■

BLUEBIRD EXPRESS

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

The following letter was received by NABS' Recording Secretary, Mark Raabe, from the secretary of the Herefordshire Ornithological Club in England.

Dear Mr. Raabe,

I thought you would like to know how interested and delighted we were to hear from W.M. Condry of your bluebird society.

Mr. Condry is an old friend of our club and has spoken to us on several occasions. In the field he has guided [us] round his Welsh Nature Reserve and given us the benefit of his great knowledge.

When I told our members that he was speaking on an American bird, groans all round! They could scarcely believe their ears. One evening, one bird, impossible.

Need I say how the "tables were turned" and how fascinated we were on hearing of this amazingly beautiful little creature. He told us of the trail of nest boxes and showed us a copy of *Sialia*. We saw slides of the bluebird which helped us appreciate your love and dedication.

Our Club was founded in 1951 and has 450 members. A few are ringers [banders] and some manage nest boxes, but most members just enjoy the birds. Birdwatching is very popular. I love it and go out almost every day with my binoculars.

We really do admire what you do for the bluebirds, and are most grateful to



Bill Condry for telling us about them, and you.

Josephine Bromley

Dear Editor:

In Lawrence Zeleny's "Question Corner" 6(2):64 Elsie Eltzroth inquired about the placement of bluebird boxes in relation to beehives.

We have a bluebird box mounted 30 feet from a beehive. A pair of bluebirds chose this box over two others which are farther away. The box nearest the hive fledged four young successfully in June and a pair has started a second brood of three. We have noticed no problem associated with the proximity of the box and hive.

Monika & Rod Botsai
Ellicott City, Maryland

Dear Editor:

There is something I wish to communicate to you and members of NABS who have Tree Swallows or Violet-green Swallows, as well as bluebirds using their nest boxes:

As an investigator of Tree Swallow biology, I very much appreciate the interest often expressed in *Sialia* for the habits and nesting success of the Tree Swallow and the Violet-green Swallow, and the concern for minimizing nest-site competition between the swallows and the bluebirds without interfering with swallow breeding opportunities and success.

However, I would like to foster even more appreciation for these swallows, partly because of the occasional incomplete data on swallow nestings

and success in reports and papers in *Sialia*.

That this occurs is, of course, quite understandable, when the major focus of the Society and its members is on the bluebirds, when the swallows compete for nest sites with the bluebirds, and when the swallows are not as scarce as the bluebirds.

However, when one focuses on one aspect it becomes very difficult to appreciate and enjoy other aspects, and in a way one is poorer as a result. It becomes difficult to appreciate and enjoy the Tree Swallow's splendid iridescent coloration, its social behavior, and its marvelous mastery of the air. The major evolutionary theme of birds is flight, and swallows are an epitome of that theme. It is almost as if they live to fly, rather than, as most birds, fly to live.

And when bluebirders are not inclined or able to keep or report relatively complete or accurate records on the Tree Swallow or Violet-green Swallows nesting in their boxes, and when summaries of continent-wide box use fail to distinguish between Tree Swallows and Violet-green Swallows, science is poorer for it.

Robert R. Cohen, Ph.D.
Professor of Biology
Denver, Colorado

Dear Dr. Cohen:

Your plea is eloquent. NABS was founded to help all native cavity nesting species although bluebirds are "first among equals" in the hearts of most of our members. We hope that each species will come to be appreciated for its own unique beauty and ecological value.

Dear Editor:

Apparently the sign is effective (*Sialia* 6(2):67). I have not had any nesting boxes stolen since the original two were taken. I added 17 more boxes in January. This year's first hatch had six nesting boxes with six eggs each. I never had six eggs per nest before this year.

Harry Krueger
Ore City, Texas

Dear Editor:

My nesting boxes all carry a message: Box Number (fill in) "Bluebird Trail" ZWENG 03692 NABS. All of this on the front side. The other two sides have the following: Protect this Area & Post. These are stencils I have made up; I use a spray can with black paint to get the message on the box. Inside the box, I show the box number again and then also have a name card on the back that can be seen through the entrance hole with my name, address, etc.

Joseph A. Zwenger
Fort Collins, Colorado

Dear Joseph Zwenger:

A number of bluebirders have noticed that signs and warnings on boxes help to deter vandalism. With such excellent identification, we hope your stencils do the job.

Dear Editor:

I recently sent you an article about my third grade's "Project Bluebird." Well, most of the class has occupants in their boxes, in some, eggs have been laid, and, in a few, there are baby bluebirds already. I was beginning to feel I was the only one who had not been successful. Since I live in town we put our box at the farm where we stable our horses.

I checked it yesterday when my daughter was out for a riding lesson and there was the beginning of what I thought was a bluebird nest made of dried grasses.

I told the others at the farm about it and within minutes as we were at a safe distance watching the box, a pair flew to the box, looked it over, peeked inside. She sent inside, he waited outside and they flew off together....

I can't tell you how excited I was. I had never seen a bluebird before, but heard the children in my class tell me about their exciting observations.... Thanks for your publication and for helping me get interested in such a fascinating hobby.

Sylvia Urang
Wooster, Ohio

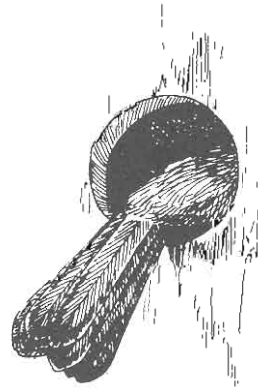
Bluebird Tales

Mary D. Janetatos

A cool, clear beautiful summer with plenty of rain, all at night, very conducive to productive gardens. What completes this picture? Why, BLUE-BIRDS, of course! That didn't happen here, probably due to a change in habitat, for the wrens reigned supreme. This fall I'll take down the wild undergrowth. Perhaps next spring the wrens will bypass this "meadow" for the brushier environs to the north, south, and east or the lush stream valley forest to the west. So I really understand when plaintive voices on the telephone proclaim that "those little wrens took over my bluebird houses!"

But, we respect the wrens—are they not native birds with a right to their own habitat? And they do consume numerous insects. The best we can do is examine our habitat. If it is wren habitat, we can be wren landlords. If bluebird habitat, the wrens will likely go elsewhere... Thus, my dream of feeding bluebirds through the winter awaits another year.

Elsewhere, the bluebird picture was brighter. Much beneficial publicity appeared in the spring and early summer. Eileen Lanzafama's excellent *National Wildlife* magazine article in the April/May issue continued to lead the way with sheer volume of requests for NABS material. Others joined the field, notably a United Press International (UPI) piece by Sam Gluffre about a farmer, Billy Brown, from the Louisville, KY, area who had built many nesting boxes in his region and was having much success with bluebirds. Since the article included NABS' address, many inquiries reached the Society. Among these, Mrs. Peter Hullin, of Wautoma, WI, wrote: "We were successful in raising one family of bluebirds but also lost another. When the parents left the bird house for a while a sparrow entered and apparently pecked their eggs. I just happened to look there as the sparrow flew out of the bird house. We've had a constant war with sparrows and grackles



or starlings trying to get into the bird houses. Is there any way to discourage them? We would really appreciate all the information we can get on preserving the bluebird."

The UPI article appeared nationwide, with people writing from Largo, FL, Streator, IL, Scituate, MA, and Glendale, WI.

Mrs. Leah Wilkins of Youngstown, Ohio, says: "I remember the thrill and delight we used to experience when bluebirds returned in the spring and nested in the area where I lived. They were diminishing in numbers years ago, even before I moved into the city; and I understand that very few are ever sighted here, except occasionally in Youngstown's Mill Creek Park.

"Very soon I will be moving to a more "natural" area north of Massillon, Ohio, where we hopefully may have more to attract bluebirds...if there are still any there to attract. But how can we coax them from a distance if none are remaining in a given area?"

Veteran bluebirder Vincent Schnelble, of Duaneburg, NY, saw the same article in the *Schenectady Gazette*. In his letter he reminisces about the Sixth Annual Meeting in Binghamton, NY. He tells of the cold wet spring in their area. He also brings up the crucial question of habitat, saying, "Sometimes I think our biggest problem here is that we are a very industrialized area, with few farms, but we will keep trying." Vincent is also one of many NABS members who build

nesting boxes to give away to people who will monitor them.

NABS members have gotten into print, too. One lovely article about the bluebird work being done by **Ira L. Campbell** appeared in the *Daily News Record*, June 1, 1984, in Harrisonburg, VA. **Charles L. Sullivan** was highlighted in the *Democrat-Rocket* in Jefferson County, MO. Mr. Sullivan notes that the bluebird is the official state bird of Missouri, "proclaimed...on March 30, 1927. I believe it was because of the bluebird's beauty and sound." Well, that certainly proves that the "Show Me" state knows a good thing when it sees one. **Bob Bodine** of Media, PA had his bluebird work written up in the *Philadelphia (PA) Bulletin*. Bob's bluebird trail is located on the premises of the Tyler Arboretum near Media.

Ron Brown of Auburn, CA took two NABS senior memberships, one for himself and one for his brother, **Gerald Brown**, of Ashmore, IL. He says, "My goal is to make 1000 houses in the next few years. I expect to establish my own trail next year and expand it in future years." **Joan Stafford** of Galesville, MD, "Thank you so much for your informative slide presentation. We are new at bluebirding, but quite enthusiastic. Your photos and tape gave us so much help, I'm sure we'll be ahead in trying to attract and keep the bluebird in our area."

Charlotte Jernigan, NABS Board Member from Wagoner, OK, tells us that several new bluebirders she's in touch with are caught up in a whirlwind of activity. "**Marion Liles** and **Mark Weathers** are both NABS members. (Tulsa) You wouldn't believe these two! We had lunch with them in Tulsa and took 13 boxes. They have property that goes back deep and we're putting multi-flora roses on that end with intentions of mowing the edge every time they mow. (They ordered packets of 'Where Have All the Bluebirds Gone' from you a couple of years ago, and believe me their enthusiasm has not dwindled.)

"**Linda** and **Dan Lang**, Jenks, OK, have put out plants such as sumac, pyracantha, and wild elderberry. They

secured permission from Public Service of Oklahoma to establish a trail of a few boxes on their property, and now have neighbors and friends bluebirding with them. This is their third year and they're good members."

More and more parks, nature centers, and schools are becoming interested in bluebird trails. In the Cincinnati, OH, area **Stewart Welsh** writes that the interest there is in establishing good field conservation practice and management of natural areas. **Steven Daniel**, of Rochester, NY, says that they hope to attempt bluebird restoration projects in some of their larger fields. NABS member **Sylvia Urang**, of Wooster, OH, is a third grade teacher who sent in wonderful photos of her students who were involved in "Project Bluebird." Sylvia developed the project which was made possible through a mini-grant from the Holmes County Office of Education.

Peter A. Dratch, Ph.D., conservation genetics, writes from Mosgiel, New Zealand, "I am sure that you have received many inquiries after the article in *National Wildlife*, but perhaps none from as far away as New Zealand. Actually I grew up in Maryland, not far from Silver Spring, but I had my first encounter with a wild bluebird far from there on Bennett Mountain, Idaho. The memory of that morning is still vivid with me.

"Please let me know how one joins the society—and how one obtains nest box kits. Of course I'd not have them sent here, but I think they would make ideal gifts for young friends back home in the States."

Doug McElfresh of Charleston, WV, sent an article from the *Charleston Gazette* of July 18, 1984, showing a white bluebird, one of a pair sighted frequently there!

The Pennsylvania Game Commission has adopted bluebird conservation as a theme for 1984. Several NABS members attended a "cavity nester workshop" which the Game Commission sponsored in June. **Bob Schutsky** of Muddy Run, PA, **Bob Bodine**, **Chuck Dupree** (NABS' Treasurer) and his wife **Betty** of Elkridge, MD, and **Larry Zeleny** (NABS' Founder) of University Park,

MD, were all very enthusiastic about the workshop. It will be repeated throughout the state of Pennsylvania. In the words of Chuck Dupree, "This will be a wonderful alliance: to bring together the hunting and fishing community and the bird watching community. They have a common cause: wise stewardship of nature."

Finally, NABS member **James C. Adams** of Birmingham, AL, tells a tale as familiar as it is touching: "Over the past four years I have been building bluebird nesting boxes. To date I have built and given away approximately 600 boxes. Some of these boxes have been placed and are being monitored by me.

"I have five such boxes along the rail fence at Green Valley Country Club in Hoover, AL. I have had a continuing battle with the sparrows in the five boxes at this location. During the past month I have torn out no less than a dozen sparrow nests.

"I was pleased about two weeks ago when I noticed that bluebirds had built in two of the boxes and was looking forward to watching them hatch. Last week I noticed a sparrow coming

out of one of these boxes which had been claimed by the bluebirds. When I looked into the box, sure enough, a sparrow had built a nest on top of the bluebird nest. I tore the nest out and found that the sparrows had evidently gone into the box, killed the mother bluebird and built a nest on top of her and the nest. When the nest was torn out the mother fell out, dead, along with four sparrow eggs. This was a great disappointment for me and now I fear that the same thing may have happened to the other one which was definitely claimed by the bluebirds.

"Although this is very disappointing I will keep up my efforts to help the beautiful little bluebirds to survive and multiply. The joy of seeing these little birds making a comeback is very rewarding.

"Let's *all* do whatever we can to attract our little friends as they need us more now than ever.

"I enjoy *Sialia* very much. Keep up the good work."

And as we face the winter months, let us renew our commitment to befriend one of God's loveliest creatures. **THE BLUEBIRD!** ■

William G. Duncan 1897-1984

Bluebirds lost one of their best friends with the death of William G. Duncan of Louisville, Kentucky, on July 7, 1984, at the age of 87. Duncan was one of the major bluebird conservation pioneers. In his earlier years he operated extensive bluebird trails, mostly in Jefferson County, Kentucky. He designed his own nesting boxes, the plans of which have been used widely and successfully. By means of talks and correspondence he spread the bluebird message to thousands of people throughout the country.

Duncan's interest and concern with conservation issues were broad and deep. This led him in the 1950's to begin writing and distributing newsletters to interested people. His mailing list eventually exceeded 1,500. These newsletters covered a wide range of conservation issues, but Duncan's first love was the bluebird, the plight of which he mentioned more frequently than any other subject.

Bill Duncan will be sorely missed by the bluebird world, but his work will be carried on by the untold numbers of concerned people now engaged in helping the bluebird as a result of his guidance.

—L. Zeleny

Cavity Nester Workshop in Pennsylvania

Robert Bodine

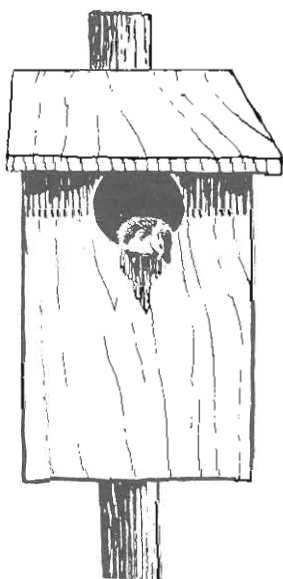
It's been the "Year of the Bluebird" in Pennsylvania.

The Pennsylvania Game Commission has featured bluebird conservation in its 1984 "Working Together for Wildlife" program, a project aimed at increasing the population of endangered and threatened non-game species in the state.

One of the highlights of this year's endeavor was a two-day Cavity Nester Workshop sponsored by the Game Commission and the National Audubon Society which was held in early June at the Middle Creek Wildlife Management Area in Lancaster County.

Bluebirds were featured on Friday evening. Presentations began with the NABS slide show, "Where Have All the Bluebirds Gone?" Robert Schutsky, research biologist at Muddy Run Park updated activity along that trail while Janet Leighow of the Bureau of State Parks described the expanding nesting box program which fledged more than 600 young from 174 boxes in 1983.

Peter S. Duncan, Executive Director of the Pennsylvania Game Commission, and Walter Pomeroy, Mid-Atlantic Regional Vice-President of the National Audubon Society, emphasized the critical importance to wildlife of natural cavities and spelled out some of the management guidelines that have been established to help preserve them. Lest bluebirders forget, Jerry Hassinger, a Game Commission biologist reminded the audience that about 35 birds and 19 mammals in Pennsylvania use natural cavities or manmade substitutes.



Along with facts about attracting bluebirds, presentations and literature at the conference provided information about cavities for a range of birds and mammals from Wood Ducks, American Kestrels, Purple Martins and various owls to bats and squirrels. ■

61 Gordons Drive
Media, PA 19063

Bluebird Slide Show

The NABS slide show is available for rental at \$10.00 or purchase at \$55.00. The show consists of 141 collated, cardboard-framed 35 mm slides and a printed script (no slide tray). If a cassette narration is desired add \$5.00 to the purchase price.

To rent or purchase the bluebird slide show, write to the following address: NABS Slides, Box 6295, Silver Spring, MD 20906-0295. Please allow a month for delivery and, if possible, specify several dates.

To the Bluebird

If the speckled starlings
Simply aren't your darlings,
If the raucous grackles
Tend to raise your hackles,
If the noisy sparrows' nests
Make you feel that they are pests,
If handsome Blue Jay with roguish traits
Drives the songbirds from your gates,
If in spring in early morn
The crows devour your tender corn,
If even mocker robs your sleep
With moonlight songs on nerves that creep,
Oh, don't repeat the words you utter
When flickers drum upon your gutter,
Please don't give up on feathered friends,
Seek bluebird neighbors and joy begins.
Of course you'll need a bluebird box
Just out of reach of cat or fox,
On sturdy post—the hole just right,
Nor behind a tree to block your sight,
Then a flash of blue and joyous songs,
Then to the bluebird your heart belongs.

Jesse E. Aiken

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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 maladroitness of human beings, as well as other natural disasters, the primary objective of the SOCIETY is to educate all who will listen about the importance of preserving these singular creatures in their native environment.

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

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

Address:
North American Bluebird Society
Box 6295
Silver Spring, MD 20906-0295

