

THE ONTARIO EASTERN BLUEBIRD SOCIETY

Spring Newsletter April 1989

2-165 Green Valley Drive
Kitchener, Ontario
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Welcome to the first official newsletter of the Ontario Eastern Bluebird Society.

Thanks to all those trail operators who sent in survey forms for the 1988 nesting season. I am happy to announce that we have achieved 6000 fledged Eastern Bluebirds from nest boxes in 1988. I had hoped to include a final report with this newsletter but unfortunately more time will be needed to compile all the information contained in over 150 returned nest box survey forms. The final total of fledged young from nest boxes should be between 6000 - 6500. The information is being put on computer at the Canadian Wildlife Service office in the Canada Centre for Inland Waters in Burlington, Ontario. The Canadian Wildlife Service has provided the fledgling OEBS with both financial and technical assistance since its inception, and this has been sincerely appreciated.

Dues for the OEBS will be due on January 1 of each calendar year. Members will receive a spring newsletter with membership card and an analysis of the previous year's nest box survey results. It was hoped that the survey results could be sent out with the spring newsletter, but this may have to be delayed each year to a summer mailing or included with the fall newsletter. The fall newsletter will contain that year's nest box survey form and will be mailed sometime in late September or early October.

Objectives of the OEBS

The objectives of the OEBS are:

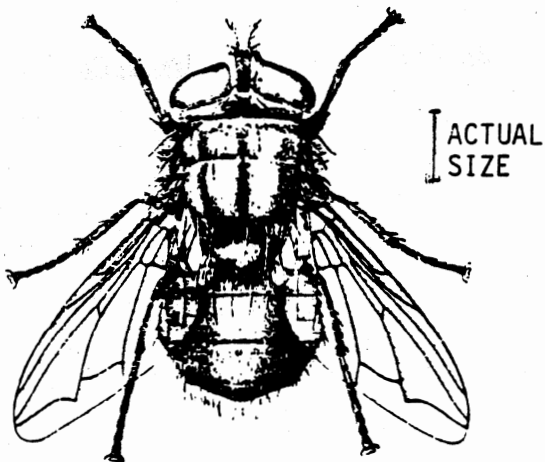
1. To monitor population trends from year to year by surveying the number of boxes in use and the number of fledged young produced. The NABS survey gives an indication of nest box breeding success over a large geographic area but makes it somewhat difficult to determine breeding success and distribution on a more regional level in each state and province. The Ontario survey will be conducted by County so that

1. NABS North American Bluebird Society

an overall distribution of breeding success can be correlated with different ecozones or physiographic areas in Ontario.

2. To provide information and guidance to new and existing trail operators. On the 1988 survey I asked respondents if they would be willing to share their trail experience with others. The overwhelming majority said yes. What I hope to do is be able to give new trail operators the address and phone number of existing trails in their county or region. By utilizing this method the experience gained by existing nest box trail operators can be shared with individuals starting new Eastern Bluebird trails. It takes years to develop successful management techniques.
3. To increase the number of well managed nest box trails in Ontario.
4. To provide a newsletter for dispersal of information about E. Bluebird trails in Ontario.
5. To run a Bluebird Conference each year where trail operators can share ideas and information and examine other nest box trails.

Special Note: A conference has been planned for April 7, 1990 at the Royal Botanical Gardens in Hamilton. More information will be included in the fall newsletter. The Conference will be hosted by the Canadian Wildlife Service, the Ontario Ministry of Natural Resources (Community Wildlife involvement Program) and the OEBS.



Adult Blowfly--see
article on Blowflies
and wasps on page 3.

Figure 303. *Cochliomyia hominivorax* (Coquerel). The screwworm fly. (From James, U. S. Dept. of Agr. Drawing by Cushman.)

Blowflies and Wasps - Getting Acquainted

By Julie Thomson Delaney
and Dr. Chris Darling. ROM

Included among the list of factors limiting the Eastern Bluebird is parasitism of nestlings by the larvae of the blowfly, Proticallophora sialia (Diptera: Calliphoridae). Commonly referred to as the "bird nest screw-worm", the adult female flies lay their eggs in the nests of many species, including Tree Swallows, House Wrens and Eastern Bluebirds. The developing maggots or larvae feed on the blood of young nestlings. The soles of the feet and the skin between the base of the toes are favorite feeding sites. During times of environmental stress, such as prolonged cold periods, it is believed that the presence of these larvae weaken the nestlings and if the infestation is heavy enough, can kill the birds outright. The larvae grow to about one centimeter in length and are a dark purplish colour. Larval development takes about 10 to 13 days after which metamorphosis or change to the adult occurs in the confines of a puparium or hardened larval skin. Pupation usually occurs in the bottom of the nest, after the nestlings have fledged. The pupa look like small, dark brown pellets, about 8 millimeters long. They remain in this resting stage for about 11 days, after which time the adult flies emerge. The adults are about one centimeter in length and closely resemble houseflies in their overall appearance.

A significant portion of the blowfly pupae are killed by minute parasitic wasps, Nasonia spp. (Hymenoptera: Pteromalidae). For example, in a 1988 preliminary study we conducted on blowfly parasitism, 57 per cent of the nests infested with blowflies were parasitized by these wasps. Nasonia lays its eggs on blowfly puparia and the wasp larvae consume the developing blowfly. Up to 100 wasps can emerge from a puparium that would have resulted in a single blowfly. Adult wasps are approximately two millimeters in length and dark metallic green in colour. They could be mistaken for very small ants with wings.

Often, when the wasps parasitize the pupae later in the summer, many of the wasp larvae wait until the following spring to emerge as adults. In light of this, the blowfly pupae should not be destroyed during the fall nest box cleanup, but should be placed inside containers with a dense metal screen covering the top. The containers should be left outside during the winter and when spring arrives, only the tiny wasps will be able to escape through the screen. This will contribute to the number of wasps available in the early summer to help in the control of blowflies.

Editors Note: Thanks to Dr. Chris Darling and Julie Thomson Delaney of the Royal Ontario Museum Department of Entomology for providing the information on Blowflies. It is my opinion that the damage done by blowflies is over emphasized. It is usually only during extended periods of cold wet weather that the blood loss extracted by the larvae cause a significant problem (except in cases of extremely heavy infestation).

Many nests that have significant numbers of blowfly larvae also have healthy nestlings. Recent articles about Eastern Bluebirds have attributed nestling deaths to blowfly larvae without considering other factors. Some nestling mortality in every species is to be expected and the Eastern Bluebird is no exception.

Every Parasite has its parasite and the blowfly is no exception.

Dr. Chris Darling and Julie Thomson Delaney are currently reseaching the use of wire mesh platforms in Bluebird boxes and their effect on the rate of parasitism of blowfly pupae by the small wasp Nasonia. Small holes have been drilled in the bottom's of some of the boxes to allow easier access by Nasonia.

Attention Nest Box Trail Operators

If you would like to contribute to the ROM's study of blowfly parasitism by Nasonia you can send your nest pupae (blowfly) from Eastern Bluebird nests only, to the ROM so they can determine the parasitism rate. They will send this information back to you. This will give the ROM and OEBS a correlation between number of blowfly larvae and nestling mortality.

What to do and information to include when sending in blowfly pupae (read carefully):

1. Send pupae from Eastern Bluebird nests only. If some pupae were removed as a management procedure during the nesting please attach note to the vile or jar stating this.
2. Send in a separate container for the pupae from each nest (no nest material please). Make sure you sift through nesting material so not to miss any pupae. The pupae from each nest are to be put in a small plastic vile or small jar with loose cotton and sealed tightly.
3. Label each vile or jar with the following information:
 - a) Name, address, phone number.
 - b) Location of nest box, county, nearest town etc.
 - c) Number of fledged young (Eastern Bluebird).
 - d) If some blowfly larvae were removed as a management procedure state this on vile.

4. Collect pupae approximately 9-10 days after young have fledged. If you can't collect during this time make sure you collect after 9-10 days and not before. The information is still valid but this time period will allow you to remove the used nest before the E. Bluebirds start a second nesting.
5. Send to: Julie Thomson Delaney
Department of Entomology
Royal Ontario Museum
100 Queen's Park, Toronto, Ontario
Canada. M5S 2C6

Tree Swallow Mortality During the Nesting Season

Nest box survey reports and individual letters received have indicated higher than normal mortality of Tree Swallows during the early spring. As many as seven or eight dead Tree Swallows have been reported from some nest boxes. Most of these reports come from newly established nest box trails.

Tree Swallows are unable to get out of deep boxes unless the inside front cover has been roughened so that they can get a grip and flap and pull themselves to the entrance hole. If the inside of the box is smooth it is very difficult for Tree Swallows to get out of them. The large amount of fecal material reported in the box is the result of the Tree Swallows being alive in the box for sometime before dying. I had this same problem last year in several new boxes that were given to me which I put up on my 170 nest box trail near Cambridge. In early spring (April) I visited several boxes that contained 5 or 6 Tree Swallows. Two or three were dead but the others still alive flew from the open side and began catching insects. They were obviously unable to climb to the entrance hole. I have several extra deep boxes on my trail (14" from bottom to entrance hole) made of barn board and Tree Swallows nest in them annually with no mortality. Young or adult Eastern Bluebirds have no problem getting out of any nest box. Some Tree Swallows mortality is to be expected in early spring when Tree Swallows arrive early but when more than one bird is found the mortality may be a result of nest boxes being too smooth on the inside. Make sure all your boxes have been roughened on the inside so Tree Swallows can climb and flap to the entrance hole.

The Importance of Nesting Box Location

Lawrence Zeleny

In planting trees it often has been said truthfully that it is far better to plant a 50 cent tree in a \$10 hole than a \$10 tree in a 50 cent hole. Similarly, it is far better to set out a cheap, poorly constructed bluebird nesting box in a suitable location (as long as the box meets certain rough measurement

requirements) than to set out a beautifully constructed box in the wrong place. It is distressing to note how frequently organizations will go to great pains and expense to make or buy large numbers of the finest possible bluebird boxes only to set them out where there is almost no chance that bluebirds will use them.

Bluebirds are not really fussy about the location of their nests. They will accept nesting boxes in a wide variety of habitats: but they do have certain strong preferences. There are many kinds of locations that they reject completely, usually for good reason. Many disappointments on a bluebird trail can be avoided by an understanding of the birds' habitat requirements.

Perhaps the most important thing to remember is that bluebirds almost always refuse to nest within the limits of cities or large towns, and usually in all but the outer fringes of suburban developments. This was not always the case. Before the advent of the House Sparrow (*Passer domesticus*) and Starling (*Sturnus vulgaris*) in North America, bluebirds nested freely in the residential section of most cities. But now the bluebirds seem to have learned from sad experience that they cannot compete with the abundance of the foreign birds in metropolitan areas.

In the case of our efforts in the Washington, D.C. region many individuals have tried hard in recent years to entice bluebirds to nest in the Maryland and Virginia residential suburbs. Most of this suburban area is within ten miles of the center of the city. Within that radius our efforts have had only very limited success. Yet within 50 miles of Washington and Baltimore many thousands of young bluebirds have been successfully raised during the same period in nesting boxes monitored by our collaborators. This highly successful area consists of some of the far-outlying suburbs and many small towns; but it is mostly rural in character, made up mainly of small farms and large country estates -- ideal bluebird habitat.

The next important point to remember is that bluebirds will not nest in heavily wooded areas and rarely in any dense shade. They prefer sunny or lightly shaded locations for their nesting boxes. Yet wide open fields are less appealing to them than areas where there are some trees nearby. Since bluebirds feed largely from the ground, they are very partial to areas where the ground is not covered with tall vegetation. Thus bluebirds favor places where the grass or weeds are kept closely cropped or where the ground is stony or too infertile to permit more than sparse plant growth.

Overgrown hedgerows provide excellent nesting sites, protection, and often food for many songbirds, but bluebirds much prefer to nest at some distance from shrubbery or underbrush. They seem to know instinctively that in brushy areas House Wrens (*Troglodytes aedon*) are much more likely to interfere with their nests. Similarly, nesting boxes on fences that are free from vines and weeds are more attractive to bluebirds than those on fences that have become covered with vegetation.

Another important consideration often overlooked is that, in the general vicinity of their nests, bluebirds need convenient perching places well off the ground from which they can get

unobstructed views of the ground. Bluebirds obtain most of their food by scanning the ground from these overhead perches. Whenever a suitable insect is spotted the bird will drop to the ground, seize its prey, and return to the same or another perch. At least one such perching place should be within 50 feet or so of the nesting box since, during the incubation period particularly, the male bird will use such a perch both for scanning the ground for food and for standing guard over his mate and her nest. He will attack furiously any other bird or animal that shows any interest in his nesting box.

Favorite perches are the lower dead branches of trees, from about 8 to 12 feet from the ground. Bluebirds are willing, however, to settle for perches nearer the ground such as fence posts or wires, or for much higher perches such as telephone or electric wires. When no other perch is available, a few stakes 5 feet or more long driven into the ground in the general vicinity of the nesting box will be greatly appreciated by the bluebirds. Birds have remarkably keen eyesight, far better than ours and have no difficulty spotting tiny insects on the ground from high perches.

Mountain Bluebirds (*Sialia currucoides*) are somewhat less dependent on lookout perches than are Eastern Bluebirds (*S. sialis*) or Western (*S. mexicana*). They are masters of the art of hovering as they scan the ground for food. This permits them to make a more thorough search of any area than they can from fixed perches, but this advantage is surely gained at the cost of a considerable expenditure of energy.

Following are some of the kinds of locations that are likely to provide the best bluebird habitat during the nesting season:

- o Pastures
- o Golf courses
- o Large lawns
- o Abandoned orchards
- o Country cemeteries
- o Roadsides of small country roads
- o Open borders of woodlands
- o Cultivated fields with low growing crops and open spaces between rows
- o Any open areas with scattered trees and sparse vegetation or short grass

Nesting boxes are best mounted on smooth metal posts which may be kept well greased during the nesting season to help control climbing predators. Where predators are not a serious problem fences, fence posts, and utility poles (with permission from the utility company) are excellent and convenient for mounting the boxes. Trunks of isolated trees may be used if there are no squirrels or climbing predators in the area.

EDITORS NOTE

Dr. Lawrence Zeleny is the founder of the North American Bluebird Society and has done more for bluebird conservation than anyone in North America. I have included his article in this newsletter because I feel nest box location is the number 1 factor in determining nest box success or failure.

ONTARIO

1989 EASTERN BLUEBIRD NESTBOX SURVEY

NAME _____

ADDRESS _____

TELEPHONE NO. _____

County where Bluebird boxes are located _____

If more than one county, number in each _____

How many Bluebird boxes did you monitor _____

Total number of boxes on your trail _____

How many times did you check your trail during the nesting season _____

1989

No. of boxes used successfully by E. Bluebirds (1) _____

No. of successfull E. Bluebird nestings(broods) (2) _____

No. of young E. Bluebirds fledged (3) _____

Unsuccessfull E. Bluebird nestings (4) _____

(1) Used successfully means at least one bluebird was fledged. More than one nesting per box equals one box used successfully.

(2) Include all E. Bluebird nestings in each box. eg. two broods raised in one box equals two successfull nestings.

(3) A young bird is said to be fledged when it leaves the nest box on its own power.

(4) Include in this category if nest was built or eggs were laid but for some reason no E. Bluebirds fledged.

Number of E. Bluebird eggs laid in boxes Blue _____ White _____

Number of E. Bluebird eggs known to have hatched _____

Number of E. Bluebird eggs which did not hatch _____

Number of eggs for which fate unknown _____

Discription of Nest Box:

Top Opening _____ Side Opening _____ Front Opening _____

Depth From Botton of Hole to Floor _____

Inside Dimensions _____ Wood Type and Thickness _____

_____ Color of Box _____

What Sort of Predator Protection was used, if any? _____

Successfull nestings of other species

1989

House Wren _____
 Tree Swallow _____
 Black Capped Chickadee _____
 House Sparrow _____

Banding Totals

Eastern Bluebird _____
 Tree Swallow _____

Name of Bander _____

Number of years you have maintained a nest box trail _____

Number of E. Bluebirds in your area nesting in natural cavities _____

What methods were used to discourage house sparrows _____

Date of first E, Bluebird sighting in 1989 _____

Date of last E. Bluebird sighted in 1989 _____

Number of pairs of E. Bluebirds represented by your nest box trail _____

Has the population of E. Bluebirds in your area increased or decreased over the past five years _____ from 1988 _____

Where are your boxes located (Please circle): pastureland, open field, cereal crops (corn barley oats wheat etc.), hedgerow, woodland edge, railway tracks, lawn (any mowed area, park, golf course) cemetery, roadside, orchard, garden.

If eggs or nestlings were lost, indicate the importance of the presumed cause. (No. 1 for most important to No. 8 for least important)

pesticides/herbicides _____ humans _____ raccoons _____

house wrens _____ house sparrows _____ squirrels _____

snakes _____ Blowflies _____ weather _____ other _____

Would you be willing to share your trail & experiences with others _____

Suggestions for changes in survey or overall comments _____