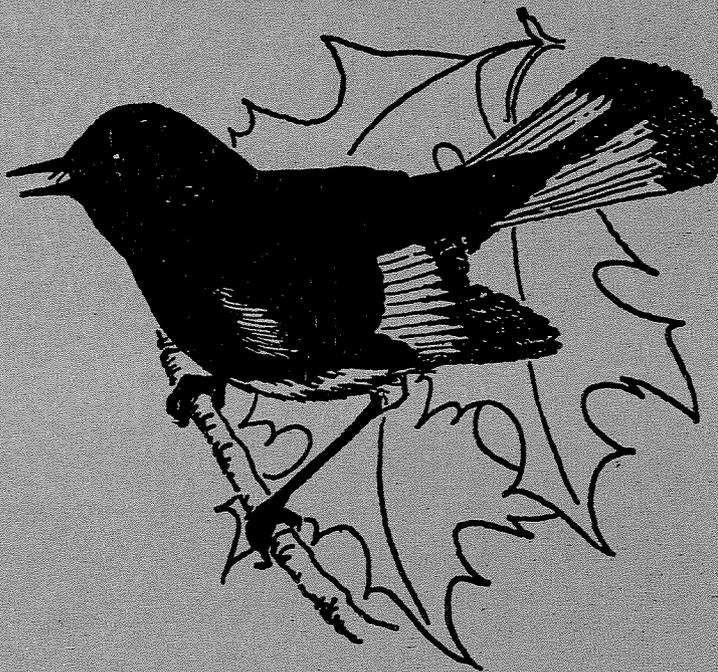


# *The* REDSTART

Volume 36—Number 3

July, 1969



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# The REDSTART

Volume 36—Number 3

July, 1969

## CONTENTS

Page

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Common Snipe Wintering in Berkeley and Jefferson Counties of West Virginia —Clark Miller .....	82
Bird Casualties at Picture Windows —Anne Shreve .....	83
A Marl Marsh Natural Area with Five Plants New for West Virginia —Eugene E. Hutton, Jr., Clark Miller and Charles Conrad .....	84
Common Nighthawk Mobbed by Songbirds —Nevada Laitsch .....	89
Territorial Defense —Connie Katholi .....	90
Field Notes —Nevada Laitsch .....	91
The Gathering Cage —Constance Katholi .....	94

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COMMON SNIFE WINTERING IN BERKELEY AND JEFFERSON COUNTIES OF WEST VIRGINIA

Clark Miller

The purpose of this paper is to point out the environment and conditions that seem to induce Common Snipe (*Capella delicata*) to winter in Berkeley and Jefferson counties of West Virginia.

In the limestone sections of Berkeley and Jefferson Counties of West Virginia there are a number of fairly large springs. Many of these springs have a comparatively large, boggy, ice-free area where various species of evergreen plants grow in the water. These boggy areas are the "winter home" for numbers of Common Snipe.

Snipe Census

In 1952 we listed Wilson's Snipe on our Christmas Count, and due to this listing the Fish and Wildlife Service asked if we would take part in their mid-winter Wilson's Snipe Census which was started that year. In compliance with their request we started to count Snipe in 1953, finding twenty-six at four locations. This Census, or Survey as it was later called, was confined to an eight day period about the first of February. The next several years we investigated suitable locations for Snipe to winter and added places to visit during the Survey. In 1956, there were eighteen locations visited and by 1958 it had grown to twenty-three, which was about all that could be covered in daylight in two days. The Fish and Wildlife Service discontinued the Snipe Survey after 1964 but we continued to visit some of the locations about the same dates since then. The peak year of the Survey was 1959 when we counted one hundred and thirty-six Snipe, drove 167 miles and walked 24.1 miles and were in the field sixteen hours and fifty minutes in the two days.

Factors Affecting Snipe Population

The characteristics of the several locations change from time to time and these changes often make it unsuitable for Snipe to winter in that particular location. Observations and information gathered during the Snipe Survey causes one to conclude that the condition of the boggy area below the spring is the controlling factor of the Snipe population wintering in this area.

Probably, the oft-quoted phrase "suitable habitat" is applicable for this situation. There are various conditions that cause a change in these boggy areas from year to year. Many of these changes are caused by man, but, contrary to what one quite often thinks, the man-made changes improve the habitat more often than ruin it in this particular instance.

Analysing some of the examples that seem to apply in this situation, here are a few that are worth noting.

One: Many of the boggy areas are rather flat, and as the vegetation becomes too dense the water spreads out and floods the surrounding ground, causing the boggy area to become too large for the amount of water to keep it ice-free during cold weather and the Snipe have no place to feed. This has happened in two places we visited and there have been practically no Snipe in these locations for the past six years.

Two:—This same condition happened at two other locations we visited, but, the land-owner keeps a channel cleaned out for the water and controls the size of the boggy area, not for the sake of the Snipe, but to utilize the pasture field more effectively.

Three:—The two commercial Cress Ponds we visit alternate the use of the ponds about every three years. These ponds are not the same size and the age of the plantings varies from time to time, the number of Snipe that winter at these installations reflects very closely the size and condition of the feeding grounds.

There are many, many examples that bear out the concept that the condition of the boggy areas influences the number of Snipe that winter in each location.

Banding Snipe

The writer obtained a Banding Permit in November of 1963 and has been trying to catch Snipe when practical. There were two Snipe caught and banded in 1963, two in 1964 plus a re-capture of one Snipe which was banded in 1963. No new Snipe were caught in 1965 but Snipe #xxx-xxx04 was again re-captured. Again in 1966 no new Snipe were caught but #xxx-xxx04 was re-captured for the third year. In 1967 eleven Snipe were caught and banded and one Snipe banded in 1964 was re-captured. In 1968, sixteen Snipe were banded, none of which were returns. It is hoped that future Bandings will reveal the breeding grounds of the Common Snipe that winter in this area.

Conclusion

To the best of the writer's knowledge we covered over 75% of the areas in the two counties that are suitable for Snipe to winter.

Here is a table showing the number of Snipe counted in Berkeley and Jefferson Counties from 1953 through 1968.

1953	26	1959	136	1965	88
1954	39	1960	92	1966	93
1955	77	1961	112	1967	82
1956	99	1962	96	1968	
1957	82	1963	81	Jan.	93
1958	81	1964	67	Apr.	124

There have been life histories and numerous articles about Snipe read by the writer since 1953 and verbal information gathered from bird students, local farmers and outdoorsmen about their observations of Snipe but there is nothing that takes the place of being out in the field and seeing for ones-self the abundance of information that can be learned. It behooves one to encourage all bird students, whether serious, or not so serious, to concentrate on one particular bird and find out all one can about it by ones own observations.

Inwood, West Virginia 25428

This paper was presented at the February 1969 mid-winter meeting of the Brooks Bird Club.

Bird Casualties at Picture Windows

To the ever-growing list of man's bird-destroying tools (insecticides, television towers, high tension lines) may be added one that was originally designed for the purpose of enjoying nature—the picture window.

For several years, I have helped assemble dead birds for the study skin collection at Sunrise Museum, Charleston, W. Va. There has been local publicity directing anyone finding freshly-killed birds to call members of BBC for this purpose. Almost daily telephone calls are received telling of a bird that has struck the caller's picture window.

The greatest toll is during spring and fall migrations and throughout the breeding season. Upon questioning the donor, it has been stated that hardly a day passes without the death or injury of one or two adult birds per glass area.

The most lethal windows seem to be those facing, and reflecting, nearby woodland, and "see-through" areas such as glass-encased breezeways. A few spots of Bon-Ami or white shoe polish dotted over the inside surface may never become popular with tidy housewives, but it can save dozens of birds when used during seasons of heavy avian activity.

Anne Shreve

A MARL MARSH NATURAL AREA WITH FIVE PLANTS NEW FOR WEST VIRGINIA

Eugene E. Hutton, Jr., Clark Müller and Charles Conrad

Abstract

A calcareous marl marsh natural area near Charles Town, Jefferson County, West Virginia, known as the Piedmont Altona Marsh, is described. Five plants new for West Virginia growing in the Marsh are *Scirpus acutus* Muhl., *Carex suberecta* (Olney) Britt., *Juncus balticus* Wied., *Lysimachia quadriflora* Sims. and *Eupatorium maculatum* L. The large green alga, *Chara*, with whorled branches growing in the stream bed may be responsible for the marl deposit, and the 12 degree dip of the Conococheague Limestone may cause the retention of water here. Among the birds unusual to nest here are the King Rail, Virginia Rail, Black Duck, Mallard Duck, Wood Duck, Common Gallinule, Traill's Flycatcher, and occasionally the Long-billed Marsh Wren and the Short-billed Marsh Wren.

Description of Marsh

In the Eastern Panhandle of West Virginia, about one mile west of Charles Town, Jefferson County, on the Piedmont and Altona Farms, known by the same name as the Farms, there is a calcareous Marsh of some fifty acres, formed at a low point in many square mile limestone farm land areas of Evitts Run. This run is a meandering stream, about seven feet wide and one foot deep, passing through and finally reaching the Shenandoah River about six miles to the south east. The Baltimore and Ohio Railway grade has formed the northern boundary of the Marsh since 1832 and aids in impounding water, thus creating a pond situation of about one fourth acre. The remaining Marsh, on visits in May, June, August and November 1967, was always found to have the practically flat ground covered with about four inches of water. There are many limestone springs draining into the Marsh; and since marl, a soft lime compound mixed with clay, has been mined for agricultural use from the earth farther up stream, it is thought that this type formation may underlie the Marsh.

The West Virginia Geological Survey for Jefferson County states that Evitts Run, near the east edge of Charles Town, is lined on both banks with marl, and there is a broad area of marl extending up the run. Its composition at the edge of Charles Town shows lime carbonate to be 94.7%. The elevation here is 515 feet above sea level.

The Soil Survey publication of adjacent Berkeley County, Series 1960, No. 30, states that alluvial land, marl substratum type, borders streams that drain the limestone uplands and consists of neutral or mildly alkaline material that is one to three feet thick underlaid by marl. The marl ranges from a few feet to many feet in thickness and is pure enough for use as liming material in commercial quantities. It is difficult to drain because the water table is permanently high. Some areas are ponded and are used for growing water cress.

The Piedmont Altona Marsh rests on the Conococheague Limestone, according to Robert L. Sass, Statistician-Geologist of the West Virginia Geological and Economic Survey, in a personal communication 1968. This limestone is variously banded with layers of pure limestone, limy sandstone, limy shale, marble and dolomite. This limestone bed was deposited in a shallow inland sea during the late Cambrian Period 440 million years ago and has been violently folded by subsequent mountain building activities. The area under this Marsh is the easterly limb of an unnamed syncline. The limestone bed dips 12 degrees to the northwest and may account for this undrained Marsh, as Evitts Run is flowing in a southeasterly direction. The limestone of this vicinity contains many caverns, but they are under the water table of the Potomac River Valley and therefore do not drain the marshes.

A study of a marl deposit in Hardy County, West Virginia, by Gillespie and Clendening 1964, indicated it was apparently of Late Pleistocene Age, formed a few thousand years ago, the pollen entrapped in the basal layers showing a flora of oak, hickory, pine, sycamore,

more, and elm. Four genera of filamentous green and blue green algae and three genera of mosses were thought to be significant factors in the formation of marl in Hardy County.

Marsh Plants

The following plants growing in the Piedmont Altona Marsh are new for West Virginia: *Scirpus acutus* Muhl. HARD STEM BULRUSH This bulrush makes up more than an acre of the Marsh area and reaches a height of seven feet. It is nearly a pure colony and forms a very distinctive zone in the eastern area. This species is widespread throughout the United States except in the Southeast.

*Carex suberecta* (Olney) Britt. PRAIRIE STRAW SEDGE This sedge is found in tussocks in many parts of the Marsh. In our range it extends from Ontario south to western Virginia.

*Juncus balticus* Wied. BALTIC RUSH This rush makes up at least an acre adjacent to the HARD STEM BULRUSH above and is nearly a pure colony in its zoned area. It reaches three feet in height and the straight creeping rhizome is elongate and emits many stems with the basal leaf sheath showing an interesting mucronate point. In our range the previous southernmost station was Pennsylvania and Ohio. It is widely distributed in Eurasia and North and South America and is listed as a circumpolar arctic plant by Professor Nicholas Polunin.

*Lysimachia quadriflora* Sims. FOUR FLOWERED LOOSESTRIFE (Not to be confused with *L. quadrifolia* L. Whorled Loosestrife) This dainty Loosestrife with narrowly linear elongated leaves is widely scattered throughout the Marsh. The yellow flowers are nearly an inch across with conspicuously pointed petals. It has been reported from calcareous bogs, swales, and shores from Ontario to western Virginia, Kentucky, Illinois and Missouri.

*Eupatorium maculatum* L. FLAT TOP JOE-PYE-WEED This is the first collection of this northern species from West Virginia to be deposited in the West Virginia University Herbarium, although its range is given in Gray's Manual, 8th edition, from Newfoundland south through Pennsylvania in the mountains to North Carolina. It is abundant here and forms a large colony in the western sector of the Marsh.

The following two plants were first collected in this Marsh by Floyd Bartley and Lawrence Hicks in August, 1954, and are not known from any other station in West Virginia.

*Equisetum fluviatile* L. WATER HORSETAIL. This simple or branching stem horsetail grows in colonies on both sides of the railway in the western area of the Marsh. This horsetail was also collected by Dr. Elizabeth Fisher and Mrs. Elizabeth Francis May 22, 1966. The range is from Newfoundland to Virginia in the Appalachians and is listed as a circumpolar arctic plant by Professor Nicholas Polunin.

*Scutellaria epilobifolia* A. Hamilton MARSH SKULLCAP. The Marsh Skullcap is an attractive plant and is well disseminated throughout the Marsh. This species extends from Newfoundland to West Virginia in the Appalachians, and this colony represents the southernmost extension of its range. It occurs in swamps and on edges of lakes in central Alaska and is the only skullcap known in Alaska.

The following two plants are noteworthy in that they have been reported from only one other station in West Virginia:

*Hierochloa odorata* (L) Beauv. HOLY GRASS. This grass grows in a colony in the Marsh near the railroad grade on the western edge of the Marsh. It was previously reported from Sago, Upshur County, by E.R. Grose, apparently growing from seed in a meadow mixture. This circumpolar grass occurs in the European Arctic, Asian Siberia, Alaskan Yukon and west Greenland. In our range it is indigenous from Newfoundland to Pennsylvania and Ohio.

*Hydrocotyle ranunculoides* L. FLOATING WATER-PENNYWORT. This aquatic member of the Carrot Family has been reported by Drs. Strausbaugh and Core from the Raymann

Memorial Farm in Hardy County. This may be seen growing in the small pond of this Marsh.

The following submerged plants were noted in Evitts Run:

*Chara* sp. STONEWORT. This large green alga with whorled branches is known in Germany as Candleabra Plant. It grows attached to the soil at the bottom of the run and has stems a foot in length. In their physiology these plants remove soluble lime from the water and deposit it on the stem and this encrustation is responsible for the common name "Stonewort". Marl deposits may be formed largely by *Chara* over a long period of time. This species emits a garlic odor.

*Elodea canadensis* Michx. CANADA WATER WEED. This species is abundant in the stream bed of Evitts Run.

The following plants were noted at the surface of Evitts Run:

*Lemna minor* L. LEAST DUCKWEED

*Callitriche heterophylla* Pursh. LARGE WATER STARWORT

*Nasturtium officinale* R. Br. WATERCRESS

Farther up stream from the Marsh was seen an abundance of the floating form of the liverwort, *Ricciocarpus natans* (L) Corder. This plant has been reported from Cabell County by Dr. Nelle Ammons.

The following species of mosses were common on the ground in this Marsh:

*Eurhynchium strigosum* (Hoffm.) B & S.

*Amblystegium varium* (Hediv.) Lindb.

*Hypnum patientiae* Lindb.

The following plants also occur in large colonies in various well demarcated areas of the Marsh:

*Dryopteris thelypteris* (L) Gray MARSH FERN

*Typha latifolia* L. BROAD LEAVED CATTAIL

*Typha angustifolia* L. NARROW LEAVED CATTAIL

*Solidago altissima* L. TALL GOLDENROD

*Veronia novboracensis* (L) Michx. NEW YORK IRON WEED

The following plants occur commonly to somewhat sparingly and are often well disseminated throughout the Marsh or at its margin:

*Sparganium eurycarpum* Engelm. LARGE BURREED

*Sparganium americanum* Nutt. AMERICAN BURREED

*Alisma subcordatum* Raf. WATER PLANTAIN

*Sagittaria latifolia* Willd. DUCK POTATO

*Sorghastrum nutans* (L) Nash. INDIAN GRASS

*Phalaris arundinacea* L. REED CANARY GRASS

*Sphenopholis intermedia* Rydb. SLENDER WEDGEGRASS

*Bromus sterilis* L. BROME GRASS

*Hystrix patula* Moench. BOTTLE BRUSH GRASS

*Eleocharis obtusa* (Willd.) Schultes. SPIKERUSH

*Scirpus validus* Vahl. GREAT BULRUSH

*Scirpus lineatus* Michx. REDDISH BULRUSH

*Carex stipata* Muhl. AWL-FRUITED SEDGE

*Carex leptalea* Wahl. BRISTLE-STALKED SEDGE

*Carex granularis* Muhl. MEADOW SEDGE

*Carex glaucoidea* Tuckerm. GLAUDESCENT SEDGE

*Carex buxbaumii* Wahlenb. BUXBAUMS SEDGE. This sedge reaches the arctic in West Greenland and Western Canada.

*Carex hystriician* Muhl. PORCUPINE SEDGE

*Carex comosa* Boott. BRISTLY SEDGE

*Arisaema triphyllum* (L) Schott. INDIAN TURNIP

*Acorus calamus* L. CALAMUS

*Juncus Dudleyi* Wieg. DUDLEY'S RUSH

*Boehmeria cylindrica* (L) Sw. FALSE NETTLE

*Ranunculus scleratus* L. Cursed Crowfoot

*Caltha palustris* L. MARSH-MARIGOLD

*Hesperia matronalis* L. DAME'S ROCKET

*Amphicarpa pitcheri* T. & G. Hairy Hogpeanut

*Impatiens capensis* Meerb. SPOTTED TOUCH-ME-NOT

*Sium suave* Walt. WATER PARSNIP

*Oxypolis rigidior* (L) Coult. and Rose. COWBANE

*Gentiana andrewsii* Griseb. BOTTLE GENTIAN

*Verbena hastata* L. BLUE VERVAIN

*Pycnanthemum virginianum* (L) Durand and Jackson. VIRGINIA MOUNTAIN MINT

*Lycopus virginicus* L. BUGLEWEED

*Veronica anagallis-aquatica* L. WATER SPEEDWELL

*Mimulus ringens* L. MONKEY FLOWER

*Pedicularis lanceolata* Michx. Swamp Lousewort

*Galium obtusum* Bigel. STIFF MARSH BEDSTRAW

*Cephalanthus occidentalis* L. BUTTON BUSH

*Eupatorium altissimum* L. Tall Thoroughwort

*Aster novae-angliae* L. NEW ENGLAND ASTER

*Bidens cernua* L. BEGGAR-TICK

*Helenium flexuosum* Michx. PURPLE SNEEZEWEED

At each end of the treeless Marsh there are the following species of shrubs and trees located in better drained situations.

*Salix nigra* Marsh. BLACK WILLOW

*Morus rubra* L. RED MULBERRY

*Platanus occidentalis* L. SYCAMORE

*Cornus amomum* Mill. KINNIKINNIK

*Viburnum prunifolium* L. BLACKHAW

It is interesting to note that this Marsh contains no sphagnum moss, no hair cap moss, no alders and is void of any member of the Heath Family. It is the only known station for seven species of plants in West Virginia and is unique in that no other known ecological situation of this state contains so many one station plants.

#### *Birds of the Marsh*

Much of the interest that centers in this Marsh is ornithological. Since 1950 members of the Brooks Bird Club have made many visits here and have listed 158 species of birds. Among the birds unusual to nest here are the King Rail, Virginia Rail, Black Duck, Mallard Duck, Wood Duck, Common Gallinule, Traill's Flycatcher, and occasionally the Long-billed Marsh Wren and the Short-billed Marsh Wren. The nests of the above species or very young birds have been seen here. Other species that probably nest here at times are the American Woodcock, Common Snipe, Black-crowned Night Heron, Pied-billed Grebe, and the Red-headed Woodpecker. In the spring some of the birds that seem to tarry here for a time are the Least Bittern, Sora, Rusty Blackbird, and Wilson's Warbler. During May, in addition to the many bird songs heard here, the call of the very small Cricket Frog (*Acris crepitans*) has a place of prominence, as was pointed out by Dr. George Hall.

In the fall one can see the Bobolink, Sora, Hummingbird, various Shorebirds, migrating Gulls, and enormous flocks of blackbirds.

A breeding bird population census, using the singing male method, was made by Mrs. Hugh Caperton, Trecla Miller, and Clark Miller on May 29th through June 3, 1963, with re-runs on June 8th and 9th to determine the status of some of the migrating birds. The railroad was used as the center line; the sides extended to 220 feet on each side; the length extended to 9 full stations, making a census area of 30 acres. This area included about 5 acres of open field beyond the Marsh and supported several additional species. This census area resulted in 93 pairs of 27 species.

There were 18 pairs of Redwinged Blackbirds, 14 Yellow-throats, 5 Traill's Flycatchers, 5 Robins, 4 Bobwhites, 4 Virginia Rails, 4 Song Sparrows, 4 Catbirds, 3 Brown Thrashers, 3 Cardinals, 3 Kingbirds, 3 Chipping Sparrows, 3 Grasshopper Sparrows, 2 Yellow-billed Cuckoos, 2 Baltimore Orioles, 2 House Wrens, 2 Phoebe, 2 Warbling Vireos, 2 Meadow Larks, 1 Morning Dove, 1 Common Grackle, 1 Flicker, 1 Hummingbird, 1 Wood Pewee, 1 Tufted Titmouse, 1 Downy Woodpecker, and 1 Cedar Waxwing. Visiting birds in the area during the census were Black Duck, Mallard, Wood Duck, Killdeer, Blackpoll Warbler, Yellow Warbler, Mockingbird, Sora, Great-Crested Flycatcher, Green Heron, Kingfisher, Carolina Wren, and Cowbird.

Other noteworthy birds seen in this Marsh from 1951 to 1967 are as follows: Gadwall, American Widgeon, Blue-winged Teal, American Merganser, Black Vulture, Marsh Hawk, Rough-legged Hawk, Greater Yellow-legs, Lesser Yellow-legs, Semi-palmated Sandpiper, Black-billed Cuckoo, Short-eared Owl, Pileated Woodpecker, Yellow-bellied Sapsucker, Horned Lark, Cliff Swallow, Red-breasted Nuthatch, Brown Creeper, Winter Wren, Hermit Thrush, Swainson's Thrush, Ruby Crowned Kinglet, Golden-crowned Kinglet, Loggerhead Shrike, Yellow-throated Vireo, Cape May Warbler, Magnolia Warbler, Pine Warbler, Palm Warbler, Orchard Oriole, Blue Grosbeak, Pine Siskin, Henslow's Sparrow, Tree Sparrow, and Swamp Sparrow.

#### Conclusion

This is a relatively undisturbed natural site where these species have made a long term adjustment to their environment and which may serve as a natural laboratory or a living museum for the scientist. The study of this type area is important in reevaluating and refining fundamental biological principles as they apply to the proper use of the land. In view of man's utilization of the land without regard to these values and because of his increasing population pressures, undisturbed or unusual sites are becoming increasingly rare. In Jefferson County not only have most of the natural areas been changed by man, but the remaining ones are being over run by Japanese Honeysuckle, (*Lonicera japonica*) resulting in the extinction of many of the common native species.

#### Literature Cited

- Anderson, J.P. 1959. Flora of Alaska.  
Britton and Brown 1936. Illustrated Flora of the Northern United States, Canada and British Possessions.  
Fernald, M.L. 1950. Gray's Manual of Botany.  
Gorman, Pasto, Crocker 1960. Soil Survey of Berkeley County West Virginia.  
Grimsley, G.P. 1916. West Virginia Geological Survey Jefferson, Berkeley and Morgan Counties.  
Muenscher, W.C. 1944. Aquatic Plants of the United States.  
Needham and Lloyd 1930. The Life of Inland Waters.  
Peterson, Roger Tory 1947. A Field Guide to the Birds East of the Rockies.  
Prescott, C.W. 1964. The Fresh-Water Algae.

- Polunin, Nicholas 1959. Circumpolar Arctic Flora.  
Strausbaugh and Core 1964. Flora of West Virginia.

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*This paper was originally presented at the 1968 mid-winter meeting of the Brooks Bird Club and was then published in Castanea 33, 241-46 (1968). It is reprinted here with permission because of the special interest of BBC members in the Altona Marsh.*

#### Common Nighthawk Mobbed by Songbirds

On August 23, 1965 I was attracted to our front yard by a bedlam of alarm cries of several resident songbirds. I could not determine the cause for alarm until some of the birds began to dive at what appeared to be a bump on the top of a limb. When I resorted to the spotting scope the "bump" quickly became a Common Nighthawk apparently asleep and completely oblivious to all the consternation about it.

I watched the action from 11:28 a.m. until 11:40 a.m. About forty birds were involved including Flicker, Downy Woodpecker, Crested Flycatcher, Wood Pewee, Blue Jay, Carolina Chickadee, Tufted Titmouse, White-breasted Nuthatch, House Wren, Catbird, Brown Thrasher, Robin, Wood Thrush, Blue-gray Gnatcatcher, Cedar Waxwing, Red-eyed Vireo, Yellow Warbler, House Sparrow, Starling, Baltimore Oriole, Scarlet Tanager, Cardinal, Goldfinch, Towhee, Chipping Sparrow, Field Sparrow and Song Sparrow. A Ruby-throated Hummingbird was seen briefly nearby but it did not join the harassment.

At the height of the harassment there was constant vocal alarm and much flitting and actual diving at the nighthawk. The boldest and most aggressive of all the birds appeared to be Downy Woodpeckers and White-breasted Nuthatches. The Nighthawk remained motionless throughout the furor which gradually subsided. About two hours later the incident was repeated but with much less vigor. The nighthawk had changed its position slightly which probably alerted a sentry.

Common Nighthawks nest less than two miles from our home and are occasionally seen feeding overhead. I was not aware that our resident songbirds were intolerant of their presence.

—Nevada Laitsch, MC 21, East Liverpool, Ohio

## Territorial Defense

In the spring of 1969 we witnessed a remarkable example of territorial defense by a Red-headed Woodpecker. Joel Carl Welty in *The Life of Birds*, says that it is not always obvious what an individual bird is defending,—his mate, the young, a singing perch, or a source of food. There was, in this case, no doubt about the object being defended: it was the suet container fastened to the side of a hickory tree at the edge of our back terrace.

The Red-head's nest hole was in the top of a dead snag fifty yards away in the woods adjoining our lawn and from his perch on this tree he had an unobstructed view of the feeder. The nest tree has been occupied regularly for the past few years by this species, but never before by such an aggressive individual. The defense was begun about the middle of May and the extreme manifestation of hostile behavior continued for two or three weeks. During this period no other species of woodpecker was permitted to approach the suet; Downy, Hairy, Red-bellied, Flicker or Pileated all were promptly dispatched. The Red-head remained constantly on the alert, seemingly with eyes in the back of his head. The very second that a woodpecker alighted on the hickory and began hitching toward the container, WHAM! it was knocked off. The Red-head hurled himself at the intruder, coming on long straight glides from the depths of the foliage,—sometimes in awesome silence; then at other times, with ominous cackling sounds. Occasionally,—his red, black and white colors flashing against the green forest background,—he simply "orbited" the trunk, sailing back to his point of launching without landing on the hickory. The speed and efficiency with which he accomplished his mission was amazing. His victims, most of them year-around residents and daily visitors to the feeder, were not expecting attack; however, they withdrew promptly and meekly,—only to return again and again on their regular circuit. The giant-sized Pileated offered some resistance at first, clinging to the bark and jabbing futilely with his long neck and heavy bill, but eventually yielded to his far-smaller opponent. Once or twice these two met in a mid-air collision, with feathers flying and the Pileated trumpeting, for the most spectacular "cock-fight" of them all. That on-lookers were seated on the terrace within a few feet of the encounter deterred neither of the combatants. The Pileated was inevitably ousted; as David Lack said in *The Life of the Robin*, "A bird is ordinarily invincible in its own territory. Victory goes not to the strong, but to the righteous, the righteous being the *owner* of the territory."

As the weeks passed the hormonal stimulation lessened and the attacks became increasingly infrequent. Gradually other picidae fed again upon the suet, but there remained until the end of June the chance of a sudden, surprise attack,—long after I had judged the incentive to have been removed. The peak of the aggressive behavior appeared to have been while the female was on the eggs with the male standing guard nearby. It declined when he too was foraging for the nestlings, which necessitated his absence from the immediate scene for varying periods of time. When the young had fledged, it was no more than a token exhibition, a remembered behavior, triggered no doubt by the presence of a woodpecker on the hickory trunk.

One benefit we derived from these circumstances was that the woodpeckers were driven to feeding at the front of the house, coming at length, upon the kitchen windowsill, the Pileated along with the others. Here all fed in amity; the Redhead made no claim to this area.

Connie Katholi



## FIELD NOTES

Mrs. Nevada Laitich, Editor  
MC 21, East Liverpool, Ohio

### WINTER SEASON

DECEMBER 1 THROUGH MARCH 31

Our region was spared storms and heavy snowfall experienced by other parts of the country during the winter season. Thus it was a cold winter with practically no precipitation. Due to lack of snowfall wintering populations were less dependent on feeders. Few of the semi hardy species chose to remain in the northern portion of the area but good numbers were present in the southern parts.

The big event of the winter season was what was probably the heaviest flight of Evening Grosbeaks on record. They came in unprecedented numbers and remained throughout the period. There was also a large wintering population of Black-capped Chickadees generally and some localities considered them more plentiful than the Carolina Chickadee.

Few migrants had appeared by the end of March as the region was still winter-locked and ponds and lakes still frozen.

Loons, Grebes and Herons—A few Pied-billed Grebes were found on the Potomac and Shenandoah rivers in the eastern part of West Virginia after Jan. 15 (CM). A few Great Blue Herons were noted in the region. They were seen on occasions near East Liverpool, Ohio; Seneca Lake near Barnesville, Ohio; at Charleston, W. Va. and in the eastern panhandle of W. Va.

Waterfowl—About one hundred Canada Geese were on Sherwin's Pond near Willoughby, Ohio until Jan. 9 when the pond froze. They left but returned in late February when the water was open (MS). Some 150 Mallards and a few Black ducks wintered at North Chagrin Metropolitan park in the Cleveland, Ohio area on a pond where an area was kept free of ice (MS). About 100 Mallards were found near Washington, Pa. Dec. 28 (SH); Mallards and Blacks were the predominate ducks on the rivers in the eastern panhandle of W. Va. after Jan. 15 (CM) and 35 Mallards and 38 Black ducks were listed on the Clarksville, Pa. Christmas count (RKB). Miller also reported fair numbers of Common Goldeneyes and Buffleheads on the rivers in the eastern part of W. Va. after Mid-January.

Vultures and Hawks—2 to 3 Turkey Vultures were seen most every day at Hardland Farm, near Lewisburg, W. Va. and 14 were counted on Dec. 28 (COH). One was seen near East Liverpool, Ohio March 8 which is quite early. Black Vultures were considered fairly common in the Lewisburg, W. Va. area during the period. 36 or more were seen Dec. 28 (COH). Cooper's Hawks were recorded by most every reporter. Red-tailed Hawks appeared to be the most common hawk in the region. 2 or 3 pairs of Red-shouldered Hawks were seen over Kanawha State Forest during the winter (NG). A Marsh Hawk was recorded at Charleston, W. Va. Dec. 29 (CK). An adult Osprey was seen in Tomlinson Run State Park, Hancock County, W. Va. on March 23 (ERC). This was at the nest which was

discovered there last year. The wintering population of Sparrow Hawks appeared slightly increased.

Gallinaceous—Good populations of Ruffed Grouse continue in the Tri-state area of Ohio, Pennsylvania and West Virginia (ERCNL). The usual numbers were present in the Eastern panhandle of W. Va. (CM). Several farmer acquaintances commented on unusual numbers of Ring-necked Pheasants on farms surrounding East Liverpool, Ohio (NL).

Shorebirds—Woodcocks were reported performing their sky dance Feb. 23 and steadily through March 10 at Charleston, W.Va. (AS). The usual number of Killdeer wintered in the eastern panhandle of W.Va. (CM); 4 were listed on the Clarksville, Pa. Christmas count; listed at Charleston, W.Va. Jan. 27 (NG); at Ripley, W.Va. March 10 (GHB) but were not noted around East Liverpool, Ohio before March 21 (NL). Common Snipe were more common than usual in the Lewisburg, W.Va. area with 13 seen on Dec. 28 (COH). The usual numbers were found in the eastern panhandle of W.Va. (CM).

Gulls, Doves and Owls—Few gulls were reported in the area during the season. Mourning Doves were considered scarce by several reporters. One or more Barn Owls spent the winter in the vicinity of Hartland Farm near Lewisburg, W.Va. (COH). Screech Owls appeared more plentiful in the region and were well distributed. Great Horned Owls which nested in Coonskin Park, Charleston, W.Va. last year were back on the nest Feb. 5 (NG). At least one and possibly two birds of this species were seen with chains attached to legs in the Charleston area during the winter (CK). A Great Horned was listed on the Clarksville, Pa. Christmas count.

Kingfishers—Norris Gluck found no Kingfishers in the Charleston, W.Va. area where they normally winter. They were found on several occasions in Columbiana County, Ohio and Hancock County, W. Va.

Woodpeckers—The Woodpecker family appears to enjoy an excellent status with most every species showing an increase. Particularly encouraging was reports of good numbers of wintering Red-headed Woodpeckers. Several Yellow-bellied Sapsuckers were wintering in the region.

Flycatchers, Larks, Jays and Crows—Phoebes were listed on the Charleston, W.Va. Christmas count, the Clarksville, Pa. Christmas count and one was found near Berkeley Springs, W. Va. Jan. 8 (GHB). Horned Larks were not uncommon in Columbiana County, Ohio and Hancock County, W.Va. during the winter. 17 were listed on the Clarksville, Pa. Christmas count. Blue Jays practically disappeared from Willoughby, Ohio in late November and were not patronizing feeders during January and February (MS). Numbers appeared to be normal in other areas. A Common Raven was observed over Oglebay Park, Wheeling, W.Va. on Feb. 23 (ERC,NL). Common Crows were greatly increased in the Lewisburg, W.Va. area over last year (COH).

Chickadees through Wrens—The flight of Black-capped Chickadees received comment from most every reporter. They appeared well distributed over the entire region and some reporters declared that they well outnumbered Carolinas. Red-breasted Nuthatches wintered in good numbers after being absent last year. Brown Creepers were also well distributed in good numbers. Winter Wrens were included in most reports. Carolina Wrens appeared to be in normal numbers.

Mimics and Thrushes—Mockingbirds continue to expand their wintering territories and increase in numbers over most of the region. At least 4 Brown Thrashers wintered in the vicinity of Inwood, W.Va. (CM). Robins were almost completely absent from the region during the winter and had not returned in any great numbers before the end of the period. Bluebirds figured in several reports. Breiding commented "In my travels through Central

and North Central West Virginia I have seen as many Bluebirds as I can recall seeing in the last five or six years." A flock of 15 was seen on Jan. 27 near Lewisburg, W.Va. (COH).

Waxwings and Shrikes—Cedar Waxwings were fairly rare during the winter. An occasional Shrike was seen in the Lewisburg, W.Va. area during the winter (COH). Starlings were considered much more common in the Lewisburg, W.Va. area and greatly increased in Charleston, W.Va. (AS).

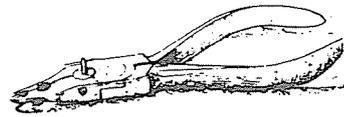
Warblers—Three Myrtle Warblers were included in the Clarksville, Pa. Christmas count. Five of this species were found in different places along the Shenandoah river in the eastern panhandle of W.Va. after Jan. 15 and a Palm Warbler was seen in this area on Jan. 1 (CM). A Myrtle Warbler was seen near Washington, Pa. Dec. 28 (SH). The usual wintering population was absent in the Charleston, W.Va. area.

Blackbirds—Eastern Meadowlarks were seen at Lewisburg, W. Va. during Dec. and Jan. and a flock of 60 was seen in this locality Feb. 22 (COH). 17 wintered on Bell's farm at Clarksville, Pa. Rusty Blackbirds were seen at Barnesville, Ohio Jan. 5 (C&E). Cowbirds were recorded occasionally-throughout the period.

Finches—Evening Grosbeaks arrived in the region in November and their numbers appear to have increased in late December and early January. They were still present in good numbers at the end of the period. They were included in every report which indicates that they were well distributed over the entire region. Reports of Purple Finches were somewhat contradictory. Katholi had "lots" at the feeders after the first snowfall but Gluck had very few at feeders in another section of Charleston, W.Va. 3 were seen at Lewisburg, W.Va. Feb. 14 (COH). Pine Siskins apparently moved to the south of the region for the winter. A large flock of about 50 was seen near St. Albans, W.Va. Jan. 3 (AS, CK). Small flocks were coming to feeders in the Charleston area after Jan. 13 (CK). A flock of 18 showed up at Inwood, W.Va. Feb. 13 (CM). A single came to feeder at Willoughby, Ohio Feb. 9 (MS). Large flocks of Goldfinches were noted in Charleston, W.Va. area during the winter.

Sparrows—A Towhee on the Weirton, W.Va. Christmas count (OJ) was the only record for the northern part of the region. Fair numbers wintered in the Charleston area. Katholi noted that 99% of birds coming to her feeders were males. A Vesper Sparrow seen at Hartland Farm, Lewisburg, W.Va. Feb. 1 and banded March 6 was Handley's first Greenbrier County, W.Va. winter record. The number of wintering Slate-colored Juncos appeared about normal. Numbers of Tree Sparrows were considered lower than usual by some reporters. However Bell found many more than usual in the Clarksville, Pa. area. A Chipping Sparrow came to the feeder at Clarksville, Pa. throughout the winter (RKB) and 2 came to feeders regularly in Charleston, W.Va. (NG). A Field Sparrow came to feeder in Willoughby, Ohio Feb. 9 and 16 (MS). Seven of this species were recorded on the Weirton, W.Va. Christmas count (OJ). A few White-crowned Sparrows remained in the region and small numbers of White-throated Sparrows were found where they usually winter. 3 Fox Sparrows were listed on the Weirton, W.Va. Christmas count. Several reporters commented on good numbers of Song Sparrows. Two Snow Buntings were listed on the Weirton, W.Va. Christmas count and a small flock was seen on Dec. 17 at the Heron airport in Hancock County, W.Va. (NL). Contributors—Ralph K. Bell, (RKB); George H. Breiding, (GHB) Everett R. Chandler, (ERC); Mary Chapman and Mabel Edgerton, (C&E); Norris Gluck, (NG); George A. Hall, (GAH); Charles O. Handley, Sr. (COH); Sarah Hugus, (SH); Oliver Johnson, (OJ); Connie Katholi, (CK); Clark Miller, (CM); Merit Skaggs, (MS); Anne Shreve, (AS)—Mrs. Nevada Laitsch, MC 21, East Liverpool, Ohio.

# The Gathering Cage



Constance Katholi, Editor  
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This spring many of us received inquiries from the Banding Office seeking to know the criteria being used to age and sex certain species; in my case, the Red-headed Woodpecker. I have been attempting to sex this species by applying the description found in Thomas E. Roberts, "Birds of Minnesota", p. 621, that " . . . . the terminal half of the secondaries are white in the males, but are spotted and barred with black in the females." (An additional difficulty with this technique is that in the juvenal plumage the white of the wing of both sexes is crossed by several bars of black, and this species has a prolonged post-juvenal molt.) This latter statement, however, is a bit beside-the-main-point of this discussion.

Many of us have clamored for a list setting forth what species a bander can or can not age or sex; pamphlets for many different species are available, but are often difficult of access to us, so it is as a public service that I am passing along here the information which I received from Larry Hood in reply to my query to him:—whether or not Roberts' statements had any basis in fact, and could be relied upon.

Mr. Hood wrote, "Regarding the sexing of Red-headed Woodpeckers by plumage characteristics, Mrs. John Lueshen of Wisner, Nebraska first questioned whether or not the data in Roberts' book was correct. The following is quoted directly from her letter: 'Having some doubts of the reliability of this method of sexing Red-headed Woodpeckers (meaning the characteristics listed in Roberts' book) I asked Dr. George Sutton for the privilege of examining specimens in his collection in Norman, Okla. and then asked Dr. Lester Shortt to examine the specimens at the Smithsonian Institution. He found nothing to confirm this statement. I also asked Dr. Walter Breckenridge to look through the specimens that were used by Mr. Roberts in reaching this conclusion. He found nothing in the collection in the Museum of Natural History in Minnesota which might have led Mr. Roberts to believe that the sex of Red-headed Woodpeckers can be determined.' Since receiving this information I (Mr. Hood) have questioned all banders reporting Red-headed Woodpeckers to check the methods they are using but to date I have found nothing to substantiate Roberts' characteristics or to refute the questions raised by Mrs. Lueshen. Until we have further information about this species I have been suggesting that banders list the individuals they band as sex "unknown". Inclusion of data into our files that may prove erroneous is a serious problem, and one that is virtually impossible to correct at a later date."

Since Roberts' manual is a "Bible" to most banders, literally ALL we've got of its kind, this is like being told in the current parlance that "God is dead"! Mrs. Lueshen has, I know, been slowly searching out inaccuracies in this text for a long time and it would be most informative if we could know more of her discoveries. She wrote to me once explaining that she slipped the corrected information into the proper page of her book on onion skin paper whenever new data came to light. At this point it occurs to me that there may be a great deal more information (similar to the above) contained in correspondence between

others of you and the Banding Office which would be of interest to all of us. If you will only take the trouble to forward it to me, I will edit it for publication.

Continuing about woodpeckers but in a lighter vein, last October (1968) I retrapped a Downy Woodpecker, #29-1883389, which had been banded originally in January 1963, five and a half years before. The band was worn in such an unusual way that the prefix was all but obliterated: only the lower portion of the numbers "2 and 9" was legible. It was not that the engraving had simply worn smooth, the band itself had worn down in the shape of a double scallop, with two "bites" actually out of the metal! I have been examining the band on each Downy which repeats and I find that this pattern of wear is characteristic for the species, and starts to show up in far less time than five years. One hollow forms at the point of closure and the other directly opposite to it, which is where the prefix is engraved. It occurs only on that edge of the band placed toward the foot, which is naturally where maximum friction occurs as the bird works upright against the tree trunk. Certainly the Downy's very short tarsus contributes to this condition. I can not recall observing this type of wear in other species of woodpecker, but long ago I noticed how softly polished the bands become on white-breasted nuthatches, whose activities parallel, or even exceed, those of a woodpecker.

## Columbus, Ohio

In March, personnel from the Wildlife Service sprayed a blackbird roost near our airport with detergent during a period of cold weather. They were testing this method of avicide and the experiment was successful. Large numbers of birds died presumably from chill. Fifty banded birds were collected, of which 46 were mine.

The project was part of a program for control of corn damage by Redwings. A moot question is whether killing all the Redwings in an area would forestall the corn damage in that area, or whether the dead birds would be replaced by others from outside. Basically this is a question of population stability. The 46 recoveries give a hint toward an answer.

Sixty-seven percent of those recovered after the kill were Grackles, although only 2 percent of the birds banded in March (using data for 6 years) were Grackles. With Redwings on the other hand, the percent of recoveries and the percent banded in March were about the same. In other words the Grackles tend to remain in the area while the Redwings interchange birds with neighboring areas.

Further available evidence confirms this point. A "stability index" (cf. IBB News, April 1969) is much larger for Grackles than for Redwings. Analysis of about 1000 recoveries over a 6-year period shows that 80% of Grackle recoveries are local, compared to 25% of Redwing recoveries. The amount of repeating at our decoy trap, reduced to terms of population, is about five times greater for Grackles than for Redwings.

Returning to the original question, the conclusion appears to be warranted that if the corn damage is done by Grackles then avicide may save the corn. But if Redwings are the culprits, killing all those in the area will not save the corn because many birds from outside will replace those killed. It would be better to devote efforts to breeding a corn husk that Redwings cannot open and developing scaring devices that are inexpensive and fool-proof.

A couple of the studies on bird personality mentioned earlier in these columns are now in print:

Burt and Giltz. A Statistical Analysis of Blackbird Aggressiveness. Ohio Journal of Science, 1969, 69, pp. 58-62.

Burt and Giltz. Measurement of Complacency in Blackbirds. Ohio Journal of Science,

Clarksville, Pa.

This spring I banded what was for me a very unusual bird: a Florida Gallinule. I had never even seen this species in this area before, although they probably migrate through on their way to the Pymatuning region in northwestern Pennsylvania, where there have been several breeding records. The bird had been captured by some boys in an orchard and was brought to me on the evening of May 7, 1969. Since it appeared normal I banded it and released it the next day at the Khedive Swamp, a small local swamp where a Virginia Rail was found nesting two years ago. The fact that the boys were able to capture it points to the possibility of an unseen injury, and I will make a notation to that effect in my banding report to the Fish and Wildlife Service, since such an injury could disrupt the normal migration pattern.

Ralph Bell

Willoughby, Ohio

"I have not been doing much banding but the following may be of interest: during the period of May 5 to 15, I banded 8 White-crowned Sparrows, one of which was *Z.C. gambellii*. I brought it into the house to show to Marion for confirmation as to its identity. Sometime I should like to write a condensed version for the Redstart of my article on White-crowns which appeared in the "Cleveland Bird Calendar." It might be of interest since both Ralph Bell and Charley Handley have caught birds of the Gambel's race in the last year or so. Last fall on October 26 I banded an intermediate between the Gambel's and the Eastern White-crowned,—a bird on which the eye stripe was incomplete,—broken.

The last Tree Sparrow for this spring was banded on April 4, but several lingered in the area for ten days longer."

Merit Skaggs

In conclusion a few lines from a letter of Carol Rudy's from Summit Lake., Wisconsin dated March 7, 1969, "Banding is bad news. Birds are scarce. People in the southern part of the state are having a hey-day banding finches,—not so here. Pine Grosbeaks have been around all winter, but not in places where they may be banded. A few Evening Grosbeaks are still here, and I saw some Redpolls last week. That is about the size of the finch situation. A few Boreal Chickadees have been moving through, and in general there seems to be much movement of winter birds in the latter part of February which usually does not occur until mid-March." The birds which Carol mentions always sound to me like the "impossible dream", and the weather and country side something which I'd like to see some day,—but wouldn't want to live there! She continues, "This was the most beautiful winter I've ever seen, so much snow and lots of sun. I wouldn't trade a winter like this for all the balmy weather in California! Snowshoes were the only mode of overland foot travel".

And after my conclusion (above) one further postscript, as succinctly as I can put it: let us hear from some of you banders who have not lately been contributing; Thank you.

Connie Katholi

## REDSTART EDITORIAL POLICY

Original papers in the field of natural history are published in the Redstart. Papers are judged on the basis of their contributions to original data, ideas, or interpretations. Scientific accuracy is most important and to this end an Advisory Board, selected by the Editorial Staff, will review submitted papers. Papers should be typewritten, double spaced and on one side of the paper only. Clarity and conciseness of presentation are very important.

## SUGGESTIONS TO AUTHORS

**TITLE.** The title should be descriptive and concise, preferably containing not more than ten words. Avoid scientific names if possible.

**REFERENCES.** References should be listed alphabetically by author and referred to in the text by author and year.

**TABLES.** Keep tables simple and easy to follow so they may be understood without reference to the text.

**ILLUSTRATIONS.** Illustrations should be suitable for reproduction without retouching. Sharp, glossy prints with good contrast reproduce best. Attach to each a brief legend. Do not write on the back of photographs. Line drawings and diagrams reproduce best if in black ink.

**REPRINTS.** Authors may request reprints at the time papers are submitted. Cost of reprints will be paid by the author. The author is responsible for putting his paper in final form for production. This will include corrections suggested by the Advisory Editorial Board.

Authors should strive for continuity of thought and clarity of expression. Some papers may fit the following outline for presentation:

**INTRODUCTION.** Reasons for conducting the research as well as background material relating what others have done.

**DATA.** The actual results of the investigation along with the methods used for collecting the data.

**CONCLUSIONS.** Interpretation of the data.

**FUTURE WORK.** As a result of the investigation, what work remains to be done.

**SUMMARY.** For longer articles it is desirable to present a brief summary of the work.

### BIBLIOGRAPHY.

Many papers will not fit this type of presentation. Sometimes a simple sequence-of-events arrangement will serve.

## BROOKS BIRD CLUB MEMBERSHIP

The Brooks Bird Club is a non-profit organization whose objective is to encourage the study and conservation of birds and other phases of natural history. Membership includes subscriptions to the REDSTART and MAILBAG and entitles one to all the privileges offered by the Club. Classes of membership are: Student, \$2.00; Active, \$5.00; Family, \$7.00; Sustaining, \$10.00; Life, \$100. Checks should be written payable to the Brooks Bird Club and mailed to 707 Warwood Avenue, Wheeling, West Virginia.