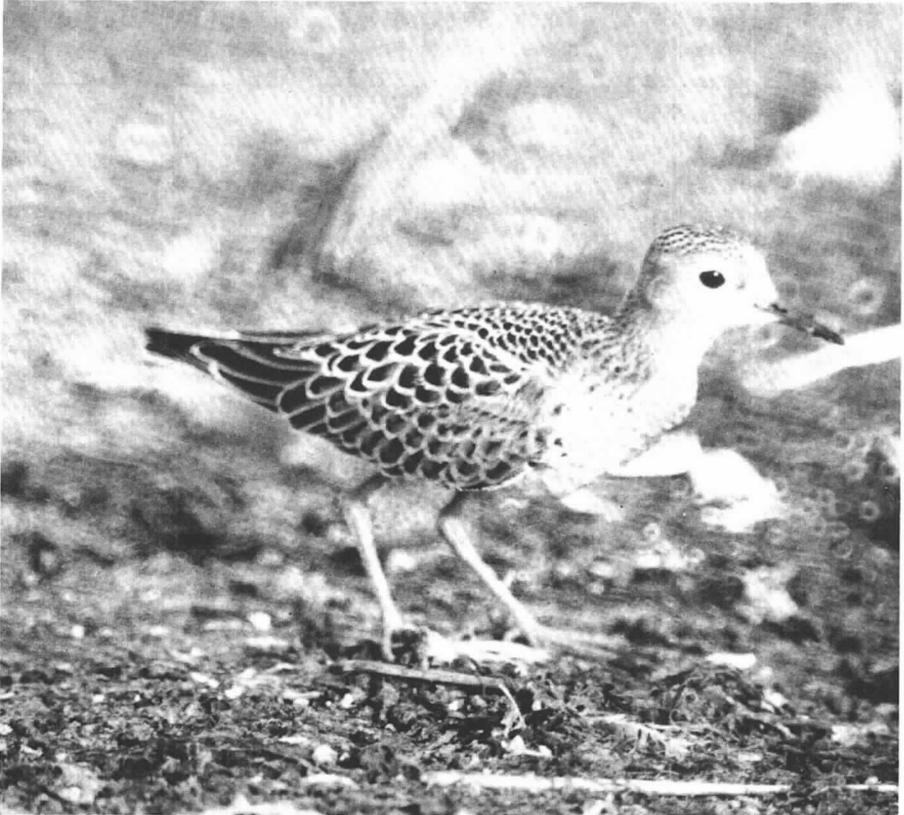


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Cover: Buff-breasted Sandpiper at Hart-Miller, Baltimore County, September 1983.
Photo by Jim Stasz.



THE MOLTS OF CHIPPING SPARROWS AND FIELD SPARROWS IN MARYLAND

ERNEST J. WILLOUGHBY

A few years ago I began to study a series of museum study skins of several species of North American sparrows to investigate the extent of molting in relation to rates of plumage wear and differences in habitat. The Chipping Sparrow, *Spizella passerina*, and Field Sparrow, *S. pusilla*, were among them. They are familiar birds of the eastern United States, so I expected that their molts had been thoroughly worked out, starting with the pioneering analysis of Dwight (1900) and being confirmed or refined by the work of later investigators (Chapman 1910, Pyle *et al.* 1987, Roberts 1932, Stull 1968, Walkinshaw 1968, Wood and Beimborn 1981). However, I had trouble reconciling some of my observations with the conclusions of these earlier studies. I also found that certain questions about molt cannot be answered definitively just by studying museum skins. Therefore, I studied molt in groups of captive live birds, the results of which I report here.

Dwight (1900) and later investigators concluded that both species have a partial postjuvinal molt in their first summer and autumn that renews all the body plumage but not usually any of the wing or tail quills. This molt produces a winter plumage that is practically indistinguishable from that of older birds. In March and April, Chipping Sparrows have a prebreeding molt that renews feathers of the forehead, crown, sides of head, chin and throat. This produces the breeding plumage characterized by the rufous crown, white stripe above the eye, the grayness of the sides of the head and the whiteness of the throat. The Field Sparrow, according to these authors, lacks a prebreeding molt. Adult birds of both species have a postbreeding molt in late summer and autumn that renews the entire plumage.

When I examined several hundred study skins in the collection of the United States National Museum of Natural History, I found many specimens that did not fit into this description of molt sequences. For example, I saw evidence of a distinct prebreeding molt of face and throat in the Field Sparrow, I found a substantial proportion of juvenile specimens of both species that were molting their wing or tail quills in their first autumn, and I saw what appeared to be continuous, repeated renewal of feathers on the heads of both species during the spring and throughout the summer. Only a study of feather renewal of living birds could answer the following questions: 1) To what extent does the Field Sparrow renew feathers in the spring before breeding, and can this renewal be called a prebreeding molt? 2) During the course of one molt period, are feathers in some areas such as chin and throat replaced more than once, while feathers in other areas, such as the crown, are replaced only once? 3) To what extent do young birds replace wing and tail quills during the postjuvinal molt, and how much individual variation is there? and 4) How long does it take individuals to complete a molt?

METHODS

I studied 25 Chipping Sparrows and 21 Field Sparrows held captive at St. Mary's College of Maryland in 1986-88. I caught the birds in mist nets at various locations in St. Mary's County at various times of year. I housed the birds individually in wire cages (half-inch mesh hardware cloth) measuring 25 cm on each side in a ventilated, unheated greenhouse. They experienced natural photoperiods, and daily and seasonal temperature fluctuations approximating those for free-living birds in the area. I fed them a mixture of pullet developer feed (Southern States brand) and a commercial finch seed mix combined in equal proportions. During warm months I supplemented this diet with mealworms (larvae of *Tenebrio molitor*), averaging about one worm a day for Field Sparrows, and two a day for Chipping Sparrows. I provided Geisler Drop-a-day Multi-vitamins for Birds (Con Agra Pet Products Company, Omaha, Nebr.) in drinking water at the recommended dosage. I provided a commercial cagebird gravel by sprinkling it on the cage floor. In warm weather each bird could bathe at least once a week in an 8 cm Syracuse dish. I held each bird for up to 8 months, then banded it with a standard United States Fish and Wildlife Service leg band and released it at the capture site.

I examined each bird at one- or two-week intervals for the occurrence of molt. This was indicated by the presence of feathers in various stages of growth, from early pinfeathers to nearly mature feathers that still had remnants of the sheath attached to their bases. To see growing feathers I lifted body feathers with the tip of an applicator stick while viewing the area under a 7X dissecting microscope. I scored each bird for extent of molting according to the method of Willoughby (1986), counted the numbers of feathers growing on face and throat, and made general notes on the degree and stage of feather renewal. (The data on molt scores will be reported elsewhere.)

To answer the question of how many times feathers of areas such as the face, chin, and throat are replaced during a period of molt, I dyed the feathers of chin and throat with malachite green according to the method of Kozlik *et al.* (1959). I observed replacement of the dyed feathers, and dyed the new feathers when all the old ones had disappeared, repeating this procedure as often as feathers were renewed. I did not dye feathers on the face because I did not want to risk getting the alcoholic dye mixture into a bird's eyes, nose and mouth.

RESULTS

Chipping Sparrow. Figure 1 summarizes the data on the numbers of feathers growing on the face and throat, which I found to be the most convenient indication of feather renewal at all seasons; these areas were always involved whenever molting occurred. The captive Chipping Sparrows had a distinct prebreeding molt in February and March, which renewed the throat, most of the face, the forehead, and usually at least the anterior half of the crown. Feather growth stopped during the period of spring migration in Maryland (Stewart and Robbins 1958) and reappeared and continued at a low intensity on the anterior parts of the face and chin through the breeding season. The postbreeding molt began in August and ended about the last of October. By counting the start of the postbreeding molt as the date when I noted a definite intensification of molt on the throat and face, I was able to monitor four birds through their entire molt. These four had a mean starting date of August 4. Their primary wing quills (primaries) began molting on the average date of August 16. Molting of all other areas soon followed. The last area to finish molting was the throat, which returned to its premolting level of feather

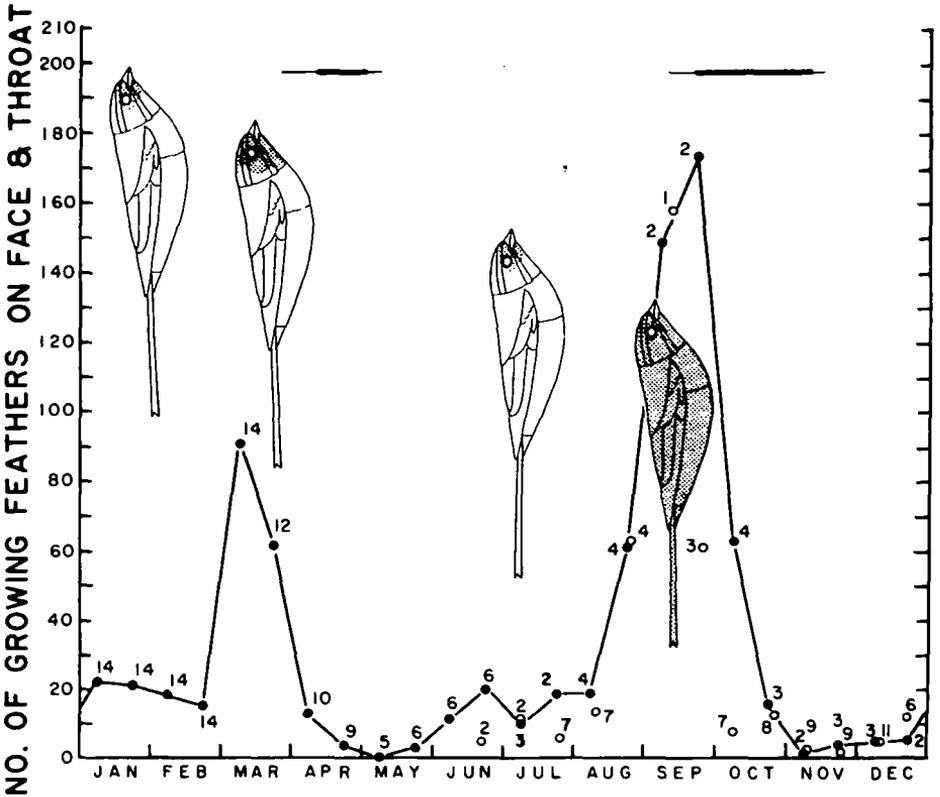


Figure 1. Mean number of feathers growing on the face and throat of Chipping Sparrows, averaged for the first through 15th and 16th through 31st of each month, plotted on the middle of each interval. Solid dots are means of birds in their second or subsequent calendar year of life (AHY), circles are means for birds in their first calendar year (HY). Numerals indicate the number of birds contributing to each mean. The thin bar indicates the normal migration period and the thick bar indicates the peak of migration according to Stewart and Robbins (1958). The stippled areas on the diagrams of birds indicate the plumage areas that were molting on AHY birds.

replacement on the average date of November 1. Thus the post breeding molt had a mean duration of 89 days. The end of the molt coincided with the start of the period of autumn migration (Stewart and Robbins 1958).

My observations of renewal of dyed feathers on the chin and throat revealed that during the period from early February through October, individuals renewed the feathers of the anterior three or four rows on the chin (and probably on the anterior parts of the face as well) at least six times, whereas the rest of the chin and throat were renewed twice, once in the prebreeding molt, and once in the post-breeding molt.

Young birds in their first calendar year (HY) have a postjuvinal molt that coincides with the postbreeding molt. Table 1 indicates the degree of replacement

of wing and tail quills during this molt. Only two of seven birds replaced any primaries, but all replaced at least the inner three secondaries. These inner three secondaries are often called tertials because of their distinctive coloration which resembles that of the back more than of the rest of the wing quills. All birds replaced at least the central pair of tail quills (rectrices). Three of these birds replaced all of their tail quills. There is no obvious relationship between the number of primaries or secondaries replaced and the number of rectrices replaced.

Table 1. Replacement of flight feathers during postjuvenile molt of captive Chipping and Field Sparrows.¹

Bird	Primaries replaced	Secondaries replaced	Rectrices replaced
<i>Chipping Sparrows</i>			
331	none	3-9 on both wings	all
333	none	6-9 on both wings	1-1, 5-5, left 4, 6, right 3
335	none	7-9 on both wings	1-1, right 6
341	none	7-9 on both wings	1-1, right 2 through 6
343	none	7-9 on both wings	all
332	right 2, 5	1, 4, 6-9 on both wings	all
334	right 7-9, left 2-9	7-9 on both wings	1-1, 3-3, left 6
<i>Field Sparrows</i>			
106	none	4-9 on both wings	none
116	none	7-9 on both wings	none
102	right 3-9, left 1-9	5-9 on both wings	all
103	right 4-9, left 5-9	5-9 on both wings	all
104	all except left 1	all	all

¹Primaries are counted from the wrist (bend of wing) outward, 1 through 9; secondaries are counted from the wrist inward, 1 through 9; rectrices are counted from the central pair, 1-1, outward to the outermost pair, 6-6.

Field Sparrow. Figure 2 summarizes the numbers of feathers growing on the face and throat during the year. Molt on the face and throat clearly increased in February and March. This molt replaced the buffy and rufous-tinged feathers characteristic of winter plumage with grayer feathers on the face and whiter feathers on the throat. This resulted in a distinct change in color, especially in those birds I identified as males by their singing and by the presence of cloacal protuberances. Dwight (1900) attributed the graying of the sides of the head and neck to wear rather than to molt. However, I observed old, browner feathers falling out and being replaced by new, grayer feathers from the same follicles, so I must conclude that a prebreeding molt produces the breeding coloration in these areas.

The prebreeding molt stopped in April, during the period of migration (Stewart and Robbins 1958), then resumed in May and continued until the start of the postbreeding molt. The molt during the breeding season involved feathers from the same areas affected during the prebreeding molt. These feathers continued to drop out and be replaced by new ones that had the same gray or white color found on breeding birds. As a result, the breeding color tended to intensify and increase in extent, leading me to conclude that this molt was a continuation of the molt that began in February or March. By following the replacement of dyed feathers on the throats of five birds, I found that there were multiple replacements of feathers on

the chin, and probably on the anterior parts of the face as well. In February and March there were two replacements of feathers on the chin and one on the anterior one-half to two-thirds of the throat. From the middle of May to the middle of August there were at least two more replacements on the chin and one on the anterior parts of the throat. Finally, during the postbreeding molt from August to October, when new, browner and buffier feathers were growing, there were two more replacements on both the chin and the entire throat.

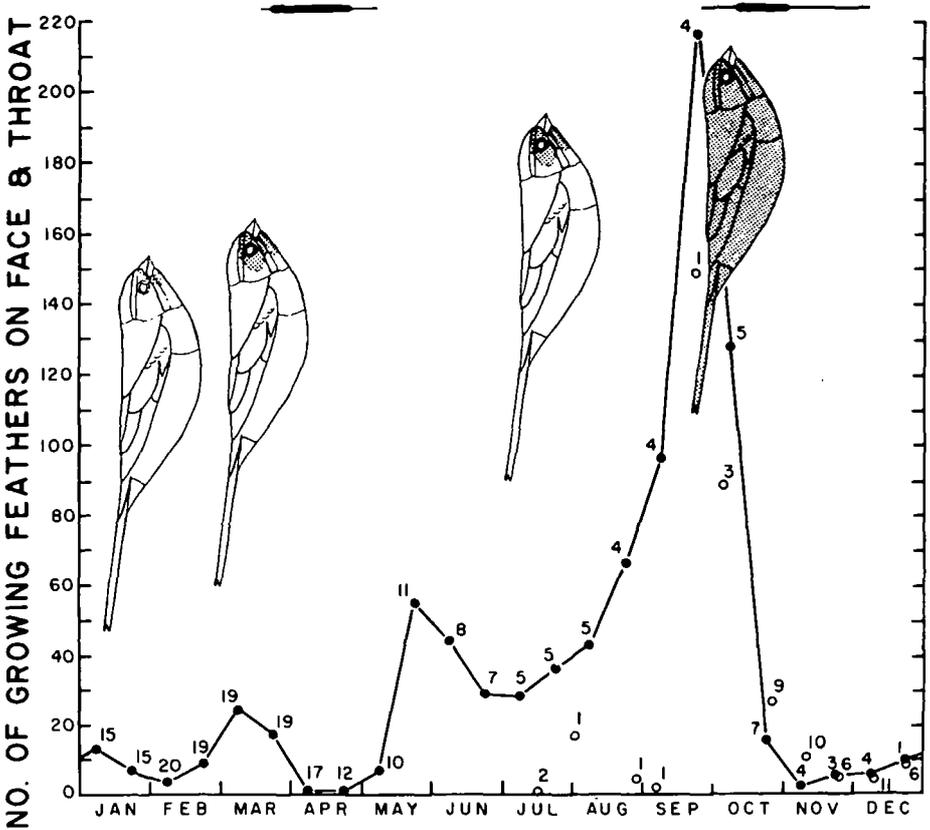


Figure 2. Mean number of feathers growing on face and throat of Field Sparrows, shown as in Figure 1.

Five captives gave complete information on the duration of the postbreeding molt. The average starting date was August 11. This was marked by the appearance of molt on the forehead. In a few days molt appeared on the breast, the back, rectrices, and, by day 17 (August 28), the primaries. Molt ended on an average date of October 27, indicating a mean duration of 77 days.

Young of the year have a postjuvinal molt coinciding with the postbreeding molt. This molt renews all the body plumage and a variable number of wing and tail quills. Table 1 summarizes wing and tail molt of the five young Field Sparrows monitored. Three of the five replaced a variable number of the outer primaries. One replaced all

but one primary, the others retained the inner two to five pairs. Those that molted primaries also molted all their rectrices, and all birds molted at least a few of their inner secondaries.

DISCUSSION

My study of molt in captive Chipping and Field Sparrows fully confirmed my observations on study skins, and added details that cannot be discovered from a series of specimens alone. Further, it shows that careful studies of molt in abundant and supposedly well-known bird species can produce some surprises. In this study, unexpected results included the following:

1. The postjuvinal molt of the Chipping Sparrow in Maryland often involves the central pair of rectrices, and in as many as half of them it involves all of the rectrices. A few birds may replace more than half of their secondaries, and most (perhaps all) replace their inner three secondaries. Occasionally some outer primaries may be replaced. These observations are contrary to the prevailing interpretation, initially stated by Dwight (1900), that the postjuvinal molt does not include wing or tail quills.

2. The postjuvinal molt of the Field Sparrow in Maryland involves even more of the wing and tail quills than in the Chipping Sparrow. Again this is contrary to the prevailing interpretation that juvenile wing and tail quills usually are not renewed in the postjuvinal molt.

3. The Field Sparrow has a distinct prebreeding molt, which begins in February in Maryland, stops during migration in April and resumes through the breeding season. This molt produces the graying of the face and sides of the neck, and the whitening of the throat during the breeding season, which Dwight (1900) supposed resulted from wear rather than molt.

4. Both species may have continual replacement of feathers on the anterior parts of the throat and face from January to November (with an interruption for spring migration). This means that there may be as many as six generations of feathers on part of the throat during a period when other parts of the plumage are replaced only once or twice.

The last observation raises an interesting question about the nomenclature of molts and plumages. Many ornithologists today use the system of naming molts and plumages developed by Humphrey and Parkes (1959). Thus we see reference to a prealternate molt producing an alternate plumage, which would correspond to what I have called a prebreeding molt producing a breeding plumage; and to a prebasic molt producing a basic plumage. Humphrey and Parkes defined a *plumage* as consisting of a *single generation of feathers* (1959: 4). By this definition, the Field Sparrow may have six distinct plumages on its throat during one calendar year. Since these various "plumages" do not produce more than two changes in color (from the winter color to the breeding color and back), it is virtually impossible to keep track of these separate "plumages" except by closely examining an individual bird with dyed plumage during virtually every week of its life. If one could keep track of the various feather generations and name them in an individual, perhaps as supplemental A, supplemental B, etc., the practical, scientific and general utility of doing so seems doubtful to me. Instead, because the feathers that grow on the anterior parts of the face and throat repeatedly during spring and early summer have the grayer or whiter coloration characteristic of the breeding plumage, I think

it is useful to consider them all part of the breeding plumage. Later, the two generations of buffy and more rufous feathers that develop in those areas can all be called part of the nonbreeding, or winter, plumage because they look the same and could not be practically distinguished anyway.

In my descriptions of molting of these sparrows, I have therefore used the older, traditional molt and plumage terminology, in the form recommended by Amadon (1966). I have also considered that a particular "plumage" may consist of several feather generations in certain areas of the body. Thus a plumage here refers to a feather coat serving a particular life-history function. The "breeding plumage" is the feather covering worn during, and characteristic of, the breeding period regardless of how many feather generations go into making and maintaining it. These plumages might just as well be called alternate and basic plumages, but only if the definition of plumage be modified from that proposed by Humphrey and Parkes. In that instance, however, the terminology would not provide information as to the relationship of the plumages to the life histories of the birds.

ACKNOWLEDGMENTS

Richard L. Zusi and George E. Watson of the Smithsonian Institution sponsored my numerous visits to the Bird Division of the U. S. National Museum of Natural History where I made the observations on study skins that stimulated me to study molting in live birds. A research grant from the Maryland Ornithological Society made the study of captive birds possible. Ronald R. Runkles was of invaluable help in capturing subjects for this study.

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Division of Natural Science and Mathematics
St. Mary's College of Maryland
St. Mary's City, MD 20686

INTERSPECIFIC AGGRESSION IN URBAN PEREGRINE FALCONS

JOHN C. BARBER

Since 1979 one or two Peregrine Falcons (*Falco peregrinus*) have been nesting in downtown Baltimore, Maryland, on the thirty-five story United States Fidelity and Guarantee (USF&G) Building. The site has been part of the Peregrine Reintroduction Program, and young were placed in the nest in some years when only a female was present. From 1979 through 1989 observers reported 31 instances of Peregrines attacking other diurnal raptors within a five-mile radius of the nesting site. This note summarizes the observed incidents of interspecific aggression seen during that period.

METHODS

Seven of the 31 incidents were observed as they took place. In these seven cases the Peregrines were seen to chase and attack raptors near the USF&G Building. The remaining 24 incidents were identified as interspecific conflicts after examination of dead and injured hawks. Hawks that had been killed or injured by the Peregrines were identified by wounds to the head and neck, by broken backs or necks, or by other injuries typically inflicted by Peregrines. It is possible that some small percentage of these birds may have been attacked by hawks other than Peregrines, or by other Peregrines than those at the USF&G Building.

Obviously not all of the victims were found, nor were all the acts of aggression in the immediate vicinity of the building observed. Several stunned or bleeding buteos flew away from the area around the building before they could be caught and examined, and these were not specifically identified. There were no observations of injuries to the Peregrines, and no Peregrine was ever found dead in the area with wounds that suggested it had been the victim of interspecific aggression.

RESULTS

The results of the 31 known instances of interspecific aggression are shown in the following table. All of the buteos handled were aged as immature birds. Recovered dead birds were destroyed. Injured birds were rehabilitated as necessary, banded, and released away from downtown Baltimore.

Table 1. Birds attacked by Peregrine Falcons

Red-tailed Hawk <i>Buteo jamaicensis</i>	16
Red-shouldered Hawk <i>B. lineatus</i>	13
Broad-winged Hawk <i>B. platypterus</i>	1
Osprey <i>Pandion haliaetus</i>	1

DISCUSSION

Numerous hawks were observed flying through the territory of the Peregrines. Many of these were young birds, apparently engaged in post-breeding wandering and dispersal. In addition, significant numbers of hawks migrate across downtown Baltimore during spring and fall. The fact that a very high percentage of the victims were large buteos (29 of 31), and that no small hawks (accipiters, smaller falcons) were recorded may suggest that Peregrines are more aggressive toward larger birds. Larger birds may present a greater theoretical threat to nestling Peregrines than smaller birds, and may elicit a stronger response. Another source of bias may be that smaller birds are less likely to be observed or recovered, and that they may in fact be taken as prey and carried back to the nest or consumed at other locations not discovered by observers. More systematic studies of interspecific aggression by Peregrine Falcons may reveal trends in seasonality as well.

507 Woodside Rd., Baltimore, MD 21229

YELLOW-HEADED BLACKBIRD IN BALTIMORE COUNTY

EIRIK A. T. BLOM

On February 14, 1988 at 4:10 p.m. I found an immature male Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*) at a feeder in Chase, Baltimore County, Maryland.

I was searching the area in response to a report on the Voice of the Naturalist hotline (301-652-1088). The original report had been made by local birder Ken Jent about five weeks prior to the 14th, but had included no information other than that the bird had been seen "in Chase" and that it had "come to a feeder in a flock of cowbirds." On three Sundays following that report I spent more than 17 hours searching through Chase and watching flocks of blackbirds.

Chase is a small, older community on the Gunpowder River near the Hammerman Area of Gunpowder State Park. The houses are mostly one-story cottages with a fair number of trees, ornamental shrubs, and bird feeders. The streets are narrow and there is little traffic.

On all three days I found flocks of blackbirds foraging throughout the community. The commonest birds were European Starlings (*Sturnus vulgaris*) and Brown-

headed Cowbirds (*Molothrus ater*). Also mixed in were a few Common Grackles (*Quiscalus quiscula*) and Red-winged Blackbirds (*Agelaius phoeniceus*) and at least three Rusty Blackbirds (*Euphagus carolinus*). Because the birds were in small flocks (50-200 birds) and constantly moving it was impossible to count individuals accurately. Over the three weekends I estimated the following totals for the entire community: 2500 Brown-headed Cowbirds, 2000 European Starlings, 400 Common Grackles, and 150 Red-winged Blackbirds. Though flocks of blackbirds are notoriously prone to wander, and though there is no guarantee the birds were the same each day, the numbers did not appear to change over the three-week period.

I found the Yellow-headed Blackbird at a feeder near the corner of Gunder and Cherwin Avenues. I had checked this area two weeks before but found no blackbirds. When I first saw the bird it was sitting on a hanging finch-feeder, and despite being oversized for the perch, had no trouble keeping its balance. After about five minutes it flew to the ground, joining approximately 15 cowbirds and a grackle. Almost immediately the birds spooked, flew up into the trees near the house, and then flew to the ground under three hanging feeders two houses away. They foraged on the ground for several minutes before flying to another yard about a block away. Before I could move close enough to observe them they flew again, landing at another set of feeders at the end of Cherwin Avenue. They remained there for several minutes before returning to the first location. When I left the area at about 4:40 p.m. the flock, including the Yellow-headed Blackbird, was still feeding.

I immediately called Peggy Bohanon who operates the Baltimore County and City Rare Bird Alert. Later that evening I was able to contact Hank Kaestner and Bob Dixon. The next morning at 7:15 a.m. Hank located the bird, and Bob Dixon found it around noon. It was last seen on February 17 by members of the Harford County Bird Club.

All told I had the bird under direct observation for about 15 minutes. I was using a 9 x 45 Bushnell binocular and a Kowa TSN-4 spotting scope with a 40X eyepiece. All observations were made from the car at distances between 75 and 200 feet. The sky was partly cloudy and the light was good, the sun being behind me most of the time. The wind was light and the temperature was in the upper 30's F. The following description was taken from notes made immediately after the observation.

"A large brown icterid, as large as the only Common Grackle it was directly compared to and about twice the size of the cowbirds. Tail proportionately shorter than the grackle's and not keel-shaped. Upperparts brown, darker than the gray-brown of the female cowbirds but not as dark as the brown on the heads of the male cowbirds. Throat and breast deep orange-yellow. Belly and vent same color as upperparts. On the left wing the tips of the primary coverts broadly tipped with white (8 or 9 feathers), each feather distinct on the closed wing but appearing as thin line of white when the wing was held slightly away from the body (when sitting on the finch feeder). The right wing was less clearly seen, but the white tips appeared less extensive and were often hard to see. The three times the bird was seen in flight no white was visible on the wing. The lower face and auricular region was largely yellow, not as orange as the throat and upper breast and was lightly flecked with brown feathers that were most prominent in the auricular region. A small mask, very thin from the bill to the eye and slightly broader behind the eye was mostly dull black, though flecked with a few brown feathers. Above the mask was a broad yellow supercilium that narrowed in front of the eye and met over the bill. Behind the eye it flared slightly and extended to the rear of the head, curling down slightly at the nape. The entire supercilium was flecked with brown. The eye, legs, and bill were dark, though the bill showed a slight silvery gray tone at some angles. The bird

dominated the cowbirds it associated with. When sitting on the feeder it was approached several times by male cowbirds that attempted to land on the perch above it. Each time it drove the cowbirds off by tilting its head back and giving a short (6-10 notes) chatter, similar to the chatter call of a Baltimore Oriole (*Icterus galbula galbula*) but slightly slower, deeper, and harsher. On the ground it fed with the other birds and showed no other aggressive behavior. In flight with cowbirds it was obviously larger, with slightly less rapid wing beats, but remained in place in the flock. The bill was long, thickish at the base, and tapered to a fairly fine point. The black mask came all the way under the bill in a thin line."

This is the fifth record of Yellow-headed Blackbird for Baltimore County. On September 10, 1891 one was collected near Curtis Bay; on September 18, 1893 one was collected in the marshes of the Patapsco River; and on October 1, 1894 another was collected in the marshes of the Patapsco River (Kirkwood, a List of the Birds of Maryland, 1895). In the present century, an adult male was at a feeder on Back River Neck on March 31 and April 1, 1968, (Douglass, Md. *Birdlife* 42:54).

I identified the bird at Chase as an immature male on the basis of the black mask, the orange-yellow as opposed to yellow on the breast, and the amount of yellow in the face. Hank Kaestner pointed out that this bird was not streaked with white on the lower breast and belly as a female would be. His notes were submitted, along with these, to the M.O.S. Records Committee.

1618 Somerville Road, Bel Air, MD 21014



THE SEASON

BREEDING SEASON, June 1 - July 31, 1989

ROBERT F. RINGLER

Heavy rains and high winds were a feature of this summer's weather, particularly the severe storm of June 14 which wreaked havoc in the Washington suburbs and on the Eastern Shore. No doubt the nesting activities of many species of birds were disrupted by the violence of this storm. Nest failures among ground-nesting colonial waterbirds were particularly high and many passerines suffered as downed trees and limbs dislodged nests. Thus ended the drought that has plagued recent summers. Inland reservoirs and ponds were filled, making shorebirding impossible at those sites, but some fields were subsequently flooded, producing fresh habitat if the observer could find it.

Observers: C. Adams, George & Henry Armistead, Chris Beaton, Rick Blom, Larry Bonham, Don Broderick, George Chase, Martha Chestem, Dave Czaplak, Lynn Davidson, Bob Dixon, Kevin Dodge, Chris Dorset, Sam Droege (reporting for PWRC), Sam Dyke, Jeff Effinger, Ethel Engle, Jane Farrell, Roberta Fletcher (reporting for Caroline Co.), Mark Garland, Jim & Patricia Gruber, Marvin Hewitt, Robert Hilton,

Marshall Iliff, George Jett, Hank Kaestner, Greg Kearns, Ray Kiddy, Dennis Kirkwood, Nancy Magnusson, Stauffer Miller, Dotty Mumford, Mariana Nuttle, Michael O'Brien, Betty Pitney (reporting for Wicomico Bird Club), Fran Pope, Ann Rasberry, Jan Reese, Sue Ricciardi, Wilbur Rittenhouse, Gene Scarpulla, Bill Scudder, L. T. Short, Steve Simon, Teresa Simons, Connie Skipper, Edwin Smith, Jo Solem (reporting for Howard Co.), Jim Stasz, Chris Swarth, Charles Swift, Glenn Therres, Mary Twigg, Dave Walbeck, Joy Wheeler, Hal Wierenga, Jim Wilkinson.

Abbreviations: DC=District of Columbia, NWR=National Wildlife Refuge, PWRC=Patuxent Wildlife Research Center, SP=State Park, WMA=Wildlife Management Area.

Locations: Only locations that cannot be found in the index of the state highway map are listed here (counties in parentheses). Assateague Island (Worcester), Barren Island (Dorchester), Blackwater NWR (Dorchester), Bloodsworth Island (Dorchester), Centennial Lake (Howard), Cornfield Harbor (St. Marys), Cuckold Point (Baltimore), Damsite (Kent), Deep Creek Lake (Garrett), Eastern Neck NWR (Kent), Flag Ponds Park (Calvert), Georgetown Reservoir (DC), Hains Point (DC), Harford Glen (Harford), Hart-Miller (Baltimore), Herrington Manor SP (Garrett), Hooper Island (Dorchester), Hughes Hollow (Montgomery), Jennings Randolph Lake (Garrett), King's Creek (Talbot), Little Meadows Lake (Garrett), Loch Raven (Baltimore), Monie Marsh (Somerset), New Germany SP (Garrett), Piney Run Park (Carroll), Point Lookout SP (St. Marys), Rocky Gap SP (Allegany), Sandy Point SP (Anne Arundel), South Marsh Island (Somerset), Spring Island (Dorchester), Tilghman Island (Talbot), Triadelphia Reservoir (Howard unless noted otherwise), Wilson Tract Sanctuary (Garrett), Wolf Swamp (Garrett).

Loons. Stasz saw a **Red-throated Loon** in the lagoon at Flag Ponds on June 18-26 for the only summering record this year. **Common Loons** were found from one end of the state to the other in small numbers with 1 in non-breeding plumage in DC on June 11 (Czaplak), 1 at Loch Raven on June 12 (Scarpulla), 1 remained at Rocky Gap through June 16 (Twigg +) 1 in non-breeding plumage at Prettyboy Reservoir, Baltimore County on July 3 (Scarpulla), 1 found dead at North Branch on July 8 (Twigg), 1 off Tolchester on July 15 (Dolly McSorley), 1 in non-breeding plumage at Tilghman Island on July 30 (Reese), 1 in Whitehall Bay, Anne Arundel County on July 31 (Iliff), and 2 on Deep Creek Lake during the summer (Dodge).

Grebes, Pelagics, Pelicans. A **Pied-billed Grebe** at Cumberland on June 30 (Simons) was an unusual summer record, and 1 at Loch Raven on July 25 (Wheeler) was likely an early fall migrant. A **Horned Grebe** in breeding plumage was on Conowingo Lake on June 28 (Scarpulla). John Loegering, working on Assateague Island, found a dead **Sooty Shearwater** on the north end of the island on June 3 and a sub-adult **Northern Gannet** on June 19, which later died. The high count of **Brown Pelicans** for the summer was 70 off Assateague and Ocean City on June 22 (O'Brien).

Cormorants. **Double-crested Cormorants** have become so common during the summer season that only the most notable can be mentioned such as the adult on Jennings Randolph Lake on June 3 (Blom +). High counts for the season were 95 in the Bloodsworth Island area on June 3 and 345 there on July 3 (Armisteads), 16 at Hains Point on July 1 (Czaplak), and 118 at Cove Point on July 22 (Stasz). Other interesting sightings were 1 in Montgomery County on June 11 (Bonham), 8 at

Ocean City on June 23 (O'Brien), 2 at Tilghman Island on July 3 (Reese), 2 at Georgetown Reservoir on July 8 (Hilton), 5 at Point Lookout and 5 at St. George Island on July 8 (O'Brien), 1 at Triadelphia on July 8 (Chestem), and 1 at Denton on July 10 (Hewitt).

Least Bittern, Great Blue Heron. Sightings of **Least Bitterns** were mostly from known nesting areas such as 1 at Lilypons on June 2 (Reese, Effinger, Carolyn Mills), a pair at Hughes Hollow through at least July 5 (many observers), 1 found dead on the road at Tanyard on July 4 (Engle), and 2 at Jug Bay on July 12 (Mumford, Beaton). In new locations were 1 at Southwest Area Park in Baltimore on June 29 (Smith) and 1 at Swan Creek near Aberdeen on July 14 (Kirkwood). High count for the summer was 9 at Cove Point on July 22 (Stasz). Kearns found a nest with 4 eggs and another with 1 egg in West Branch of the Patuxent River on July 25. Henry Armistead estimated 95 **Great Blue Heron** nests with young at Bloodsworth Island on June 3. In Garrett County single Great Blues were at Wolf Swamp on June 11 (Kiddy) and Cherry Creek Swamp on July 15 (Skipper), though no evidence of breeding was seen. High counts of Great Blues were 35 in DC on July 8 (Czaplak) and 22 at Tilghman Island on July 10 (Reese); the most inland was 3 at Cumberland on July 23 (Kiddy).

Egrets. High counts of **Great Egrets** for the season were 35 at Blackwater on July 3 (Armisteads) and 32 at Tilghman Island on July 10 (Reese). The only nesting report was 7 nests with young at Pone Island, Dorchester County on June 3 (H. Armistead). The first post-breeding migrant was at Harford Glen on June 20 (Kirkwood) and 1 was far inland at North Branch on July 15 (Kiddy). In Howard County the first of numerous sightings was at Marriottsville on July 21 (Blom +). Other inland reports were 1 at Loch Raven on July 26 (Swift), 6 at Conowingo on July 28 (Swift), and 1 at Piney Run on July 29 (Ringler). High counts of **Snowy Egrets** were 8 at Jug Bay, Prince Georges County on June 18 (Kearns), and 7 at Damsite on July 25 (Grubers). Other reports included 2 at Sandy Point on July 5 (O'Brien), 1 at Brown's Bridge, Triadelphia Reservoir on July 23-30 (Connie Bockstie, Sue Probst +), and 3 at Concord on July 30 (Scudder). High counts of **Cattle Egrets** were 45 at Sassafras on June 23 (Grubers), 120 at McDaniel on July 3 (Reese), 54 at Sudlersville on July 7 (Grubers), and 35 at Queen Anne on July 10 (Grubers). Other interesting reports were 1 at Fallston on June 5 (Kirkwood), 1 at Hughes Hollow on June 13 (Garland), 1 at Point Lookout on July 8 (O'Brien), and 3 at Ridgely on July 30 (Hewitt).

Other Herons. An adult **Green-backed Heron** with 2 young was at Denton on July 8 (Nuttle) and high counts for the season were 25 at Hughes Hollow on July 23 (O'Brien) and 17 at Triadelphia on July 30 (Chestem). Henry Armistead counted 81 **Black-crowned Night-Herons** at Bloodsworth Island on June 3 and Stasz saw an immature at North Beach on July 21 and 30. Wierenga saw an immature **Yellow-crowned Night-Heron** at Broadwater, Anne Arundel County on July 20. **Glossy Ibis** staged an interesting movement inland on the central part of the Eastern Shore with sightings of 30 at Ridgely on July 26 (Mava Mayo) and 28 near Sudlersville on July 29 (Davidson, Wierenga). Other reports were 1 at Jug Bay, Prince Georges County on June 18 (Kearns), 2 at Bozman on June 29 (Ed Burns), 1 at Wittman on July 15 (Reese), 1 at Hart-Miller on July 23 (Blom +), and 3 at Cuckold Point on July 24 (Simon).

Storks. **Wood Storks** appeared in two locations this summer, all involving immature birds. There were 2 near Bertha in Calvert County from July 10 with 1

through the end of the period (Stasz +), and 1 was at Towson from July 11-25 (Wheeler +). In both instances the birds were seen by many people though the original observers are unknown at this time. Further details will be published separately.

Swans. A **Tundra Swan** was at North Branch from June 3 through July 27 when it was found dead (Simons +). Breeding reports of **Mute Swans** included a nest with 6 young and 2 eggs at Barren Island on May 28 (Armistead +), 2 adults with 2 young at Ganey's Wharf, Caroline County on June 4-8 (Irene Staley), and 2 adults with 1 young at Smithson on July 30 (Robert Quidas). Two Mute Swans were far south at Bloodsworth Island on June 3 and a record high of 375 were at Hooper Island on July 23 (Armistead +), while 12 were at Tilghman Island on July 30 (Reese).

Geese. Summering **Snow Geese** were 1 at Easton on June 5 (Effinger) and 1 through the period at Centennial Lake (Farrell +). Breeding reports of **Canada Geese** included 4 downy young at Loch Raven on May 4 and 31 there on May 13 (Simon), a pair with 8 downy young at Wolf Swamp on May 13 (Walbeck), a pair with 6 downy young at Little Meadows Lake on May 13 (Walbeck, McKernan), and a nest with 2 bad eggs at Barren Island on May 28 (Armistead +). High summer counts of Canadas were 63 at North Branch on June 2 (Simons +), 340 at Blackwater on June 3 (H. Armistead), 12 at Easton on June 6 (Effinger), 74 in Columbia on June 27 (Chestem), and 81 at Piney Run on July 29 (Ringler).

Dabbling Ducks. The highest concentrations of **Wood Ducks** for the season were 53 at North Branch on July 15 (Kiddy) and 30 at Jug Bay on July 26 (Mumford). An early migrant **Green-winged Teal** was a drake at North Branch on July 14 (Twigg, Kiddy). Breeding reports of **American Black Ducks** included a nest with 10 eggs at Barren Island on May 28 (H. Armistead +), a hen with 6 young in DC on May 29 (Czaplak) and 21 on South Marsh Island on July 3, including 1 being chased by a Peregrine Falcon (Armisteads). Unusual in summer were a Black Duck near Lewistown, Talbot County on June 6 (Effinger), 4 at Cumberland on July 22 (Kiddy), and a high of 40 at Jug Bay on July 26 (Mumford). High counts of **Mallards** for the season were 600 at Hart-Miller on July 23 (Ringler +) and 140 at Piney Run on July 29 (Ringler). A **Blue-winged Teal** nest with 10 eggs was at Elliott on June 24 (H. Armistead +) and the first migrant was reported at Jug Bay on July 25 (Kearns). A female **Gadwall** with 11 downy young was at Spring Island on July 3 (Armisteads).

Diving Ducks. Summering **Ring-necked Ducks** were a drake at North Branch on June 16-17 (Simons +), 1 at Great Falls on July 1 (Jeff Deitchman), and a drake at Piney Run from May 29 through the end of the period (Ringler). Summering **Lesser Scaup** included 7 at Hart-Miller on May 28 (Ringler +) and 3 there on July 23 (Blom +), 2 drakes from May through the end of the season at Piney Run (Ringler), 1 at Easton on June 5-6 (Effinger), 2 in DC on June 11 (Czaplak), and 3 at Chestertown on June 29 (Grubers). Summering **Oldsquaws** were a sick bird at Pone Island on June 3 (H. Armistead), 1 at North Beach on June 17 (Stasz), and 10 at Sandy Point on July 12 (Davidson). An unidentified scoter was seen at the St. Marys County Environmental Center on July 3 (Bryce Lockard). Summering **Red-breasted Mergansers** were 1 at Cumberland from June 4 through July 23 with 2 there on June 12-17 (Simons +), and a drake in DC on June 5 (Mary Ann Todd). Completing the list of summer lingerers are the following **Ruddy Ducks**: 1 at Easton on June 7 (Effinger), 1 near Brown's Bridge, Howard County on June 11 (Magnusson), 1 at Chestertown on June 30 (Grubers), a drake at Bozman on July 1 (Ed Burns), a breeding-

plumaged drake near Nanticoke on July 11 (Iliff) and 20 at Hart-Miller on July 23 (Blom +).

Vultures, Ospreys, and Hawks. Rare in Allegany County were 3 **Black Vultures** at North Branch on July 14 (Kiddy). Henry Armistead counted 31 **Osprey** nests on Bloodsworth Island on June 3 and observed a nest near Bellevue that had the remarkable number of 4 young in it on July 22-23. Inland sightings of Ospreys have increased speculation that the species may eventually breed in one of these areas of the state. This summer there was 1 at Cumberland from June 2 (Simons, Ringler) through July 9 (Twigg) with 2 on July 3 (Simons). It is believed that these birds are nesting nearby in West Virginia. Also inland were 1 at Centennial Lake on June 10 (Chestem), 1 over the Middle Patuxent River in Howard County on June 10 (Solem, Farrell, Magnusson), 1 at Loch Raven on June 12 (Scarpulla) with 2 there on June 23 (Simon), and 1 at Triadelphia on July 14+ (Chestem +). The Department of Natural Resources surveyed 175 **Bald Eagle** nest sites in the state this year and found that 97 were occupied, 94 were active, 72 were successful and produced 117 young (Therres). The only inland Bald Eagle reported was an adult at Dan's Rock on June 3 (Kiddy +). Sam Dyke observed breeding behavior of **Northern Harriers** at two locations with a female carrying food at Monie Marsh on July 2 and a female with 2 flying young at Deal Island WMA on July 29. The only sighting of a wayward harrier was 1 at Massey on July 1 (Grubers). All reports of accipiters this summer came from Garrett County. A **Sharp-shinned Hawk** was at Wolf Swamp on June 3 (Kiddy +), 1 at Herrington Manor on June 4 was being chased by an American Crow, and 1 carrying food over Oakland on June 25 was being mobbed by blackbirds (both Pope). A pair of **Cooper's Hawks** was calling near a nest near Deep Creek Lake on June 10, and an adult was being chased by Blue Jays near Sand Flat on June 25 (Pope). Three young **Broad-winged Hawks** were banded in a nest near Swallow Falls on July 3 (Pope, Skipper).

Falcons. Nick Pope discovered an **American Kestrel** nest with 5 young at Mountain Lake Park on May 25, and Fran Pope banded all 5 on June 7. Eastern Shore reports of kestrels were 2 adults with 4 young at Denton on July 2 (Dorset, D. Bennett), a female at Easton on July 2 (Reese) and a male at Wittman on July 18 (Effinger), the latter perhaps an early fall migrant. Chestem observed a pair of kestrels with 2 young near Cooksville on July 9. The Department of Natural Resources surveyed 8 **Peregrine Falcon** nest sites in the state and found 6 active nests with the following successes: USF&G Building—4 eggs, all hatched, 3 fledged; Key Bridge—2 eggs, none hatched; Bay Bridge—2 eggs, both hatched and fledged; Clay Island—4 eggs, 3 hatched and presumed predated by raccoon; Smith Island—4 eggs, 2 hatched and fledged; South Marsh Island—4 eggs, 3 hatched and fledged (Therres).

Grouse, Turkeys, Rails, Crane. The only **Ruffed Grouse** breeding report was of an adult with 1 young on Green Ridge on June 17 (Simons). Reporting of **Wild Turkeys** was a little better with a hen and 6 downy young at Dan's Rock on June 3 (Kiddy +) and a hen with young at the Wilson Tract on June 4 (Mumford +). Piedmont reports of turkeys were 1 at Hughes Hollow on June 24 (Joy Peters) and 1 at Marriottsville on July 21 (Blom +): On the Eastern Shore, 2 hens with 15 young were at Idylwild WMA on June 25 (Ross Robinson). High counts of **Clapper Rails** were 7 on Bloodsworth Island on June 3 (H. Armistead) and 20 calling at Monie Marsh on July 16 (Dyke). Reports of **King Rails** were 1 flushed from a roadside farm ditch near Easton on June 22 (Dyke) and an adult found dead on the road at Tanyard on July

19 (Engle). A pair of **Common Moorhens** with 3 downy young was at Hughes Hollow from June 24 into July (Jett+), and an adult with 2 young was at Tanyard on July 7 (Engle). Lingered **American Coots** were 1 at Lake Elkhorn on June 8 (Mariano), 1 at Centennial Lake on June 19-21 (Farrell, Solem) and 1 at North Beach on July 29 (Stasz). The **Sandhill Crane** at Poolesville remained through the end of the period.

Plovers, Oystercatcher, Stilts. The last spring **Black-bellied Plovers** were 2 on Bloodsworth Island on June 3 (H. Armistead), 1 at Hart-Miller on June 4 (Kaestner +), and 1 at Ocean City on June 23 (O'Brien); early fall migrants were 1 at Hart-Miller on July 23 (Blom +) and 10 flying by the east end of the Bay Bridge on July 27 (Davidson). The last spring **Semipalmated Plovers** were 1 on Bloodsworth Island on June 3 (H. Armistead) and 10 at Hart-Miller on June 4 (Kaestner +); the first fall report was of 1 at Cornfield Harbor on July 8 (O'Brien). Pitney found a **Killdeer** nest with 4 eggs at Salisbury on June 3 and Pope observed adults with downy young at Gortner on July 28. Flocking of post-breeding Killdeer began with 75 at Remington Farms on June 29 (Grubers), 20 at Mountain Lake on July 4 (Pope), 32 in Howard County near Mt. Airy on July 9 (Chestem) and 26 at North Branch on July 13 (Twigg). The Armisteads reported the following breeding activity of **American Oystercatchers** in Dorchester County: a nest with 3 eggs on Barren Island on May 28, 6 birds on Bloodsworth Island and a nest with 2 eggs on Spring Island on June 3, and a pair with 1 young on Spring Island on July 3. There were 6 adult **Black-necked Stilts** with 1 juvenile at Deal Island WMA on July 19 (Davidson, Rasberry). An **American Avocet** in breeding plumage was at North Branch on July 17 (Simons).

Tringine Sandpipers. As usual there was a great deal of overlap of the spring and fall migrations during the summer. A **Greater Yellowlegs** at Blackwater on June 3 (H. Armistead) and 1 at Hart-Miller the next day (Kaestner +) belong to the spring, but 3 at Blackwater on July 3 (Armisteads) and 1 at Remington Farms on July 8 (Grubers) were the first of the fall. Early fall **Lesser Yellowlegs** were 1 at Remington Farms on June 28 (Grubers), 2 at Blackwater on July 3 (Armisteads), 1 near Salisbury on July 7 (Broderick), and 1 at Cornfield Harbor on July 8 (O'Brien) with numbers mounting to 130 at Hart-Miller on July 23 (Ringler +). On May 28 at Barren Island 2 **Willet** nests with 4 eggs each were found and on June 24 at Elliott a nest with 3 eggs was found (Armistead +). A Willet was on territory at Cornfield Harbor on July 8 (O'Brien) and 1 was seen near Nanticoke on July 12 (Iliff). The 2 **Spotted Sandpipers** at Jug Bay on June 1 (Ricciardi) were late spring birds, but the 4 at North Branch on June 17 (Kiddy) indicate breeding there. Early fall migrants were 1 at Mountain Lake on July 4 (Pope), 2 at Remington Farms on July 8 (Grubers), and 1 at Triadelphia on July 14 (Chestem).

Curlews, Godwits, Turnstones. The last spring migrant **Whimbrel** was at Hart-Miller on June 4 with a breeding plumage **Hudsonian Godwit** (Kaestner +). The first Whimbrel for the fall flew past Sandy Point on July 27 (O'Brien). Late spring **Ruddy Turnstones** were 3 at Bloodsworth Island on June 3 (H. Armistead) and 4 at Hart-Miller on June 4 (Kaestner +).

Calidridine Sandpipers. The only **Red Knots** reported were 2 at Ocean City on June 23 (O'Brien); these were probably late spring birds. A **Sanderling** at North Branch on July 16 (Simons) was a rarity for the western part of the state. June sightings of **Semipalmated Sandpipers** were 3 at Jug Bay on the 1st (Ricciardi), 20 at Bloodsworth Island on the 3rd (H. Armistead), 250 at Hart-Miller on the 4th (Kaestner +),

1 at North Branch on the 13th (Twigg), 1 at Lilypons on the 13th (Garland), and 5 at Remington-Farms-on-the 29th (Grubers). The latter birds were probably fall migrants as was the Semi Sand flying over Point Lookout on July 8 (O'Brien). Hart-Miller sheltered the high number of southbound **Western Sandpipers** with 500 on July 23 (Ringler +). A **Least Sandpiper** at North Branch on June 11 (Twigg, Simons) was extraordinarily late for the spring. The first fall Least Sandpipers were 3 at Remington Farms on June 28 (Grubers). Late spring **White-rumped Sandpipers** were 1 at Bloodsworth Island on June 3 (H. Armistead), 2 at Hart-Miller on June 4 (Kaestner +) and 1 at North Branch on June 10 (Simons). The first **Pectoral Sandpiper** of the fall was at North Branch on July 4 (Simons), and the high count for July was 50 near Sudlersville on the 29th (Davidson, Wierenga). The last of the spring **Dunlins** were 2 at Bloodsworth Island on June 3 (H. Armistead), and unusual in summer was 1 at Hart-Miller on July 23 (Ricciardi, Dixon). July reports of **Stilt Sandpipers**, all representing fall migrants, were 5 at North Branch on the 17th with 1 remaining on the 23rd (Kiddy, Simons); and, also on the 23rd: 1 at Blackwater (H. Armistead +), 2 at Tilghman Island (Reese) and 50 at Hart-Miller (Ringler +). A female **Ruff** was in a flock of shorebirds in a flooded field near Sudlersville on July 29 (Davidson, Wierenga).

Dowitchers, Woodcock, Phalaropes. The last **Short-billed Dowitchers** of the spring were 2 at Hart-Miller on June 4 (Kaestner +); the first of the fall were 27 at Ocean City on June 23 (O'Brien). Other fall migrants were 2 at Cornfield Harbor on July 8 (O'Brien), 1 at North Branch on July 13-14 (Twigg +) with 11 there on July 16-17 (Simons +), 2 at Tilghman Island on July 23 (Reese), and 90 at Hart-Miller the same day (Ringler +). An **American Woodcock** was still displaying at Elliott on June 24 (O'Brien). A **Wilson's Phalarope** at Hart-Miller on July 23 was very early, but a **Red-necked Phalarope** there the same day was the earliest fall migrant ever (Blom +).

Gulls. Armistead and party found 3 **Laughing Gull** nests with 1-2 eggs at Barren Island on May 28. Post-breeding dispersal of Laughing Gulls was documented by 1 immature in DC on July 8 (Czaplak), 250 at Sandy Point on July 25 (Davidson) and 10 flying over Bowie on July 27 (O'Brien). An immature summered at Hains Point from June 25 through July 15 (Czaplak). June 12 was the late date for wandering spring **Ring-billed Gulls** in Western Maryland, with 4 at Cumberland (Simons) and 2 at Broadford Reservoir (Pope) on that date. There were 200 Ring-bills summering in DC on June 10 (Czaplak) and other large flocks that were noted after the post-breeding movement began were 600 at Hart-Miller on July 23 (Ringler +) and 2000, including 3 juveniles, at Sandy Point on July 27 (O'Brien). Other sightings of Ring-bills that indicate some migration were 2 adults at St. Michaels on June 28 (Reese), 2 at Cumberland on June 30 (Simons), 2 adults in DC on July 8 and the first juvenile there on July 15 (Czaplak), 1 at Owings Mills on July 12 (Ringler), the first juvenile at North Beach on July 16 (Stasz), 1 at Hog Island on July 17 (Engle), and 1 at Columbia on July 19 (Chestem). Eight **Herring Gull** nests with 1-3 eggs at Barren Island on May 28 and 666 individual Herring Gulls in the Bloodsworth Island area on July 3 (Armisteads +) were the only reports from breeding areas. The 2 immature Herring Gulls in DC on June 10 (Czaplak) and the 1 immature at Broadford Reservoir from June 12 through July 3 (Pope) were summering but not breeding at those locations. Czaplak noted an immature **Iceland Gull** summering at Hains Point from June 10 through July 15. Reports of **Great Black-backed Gulls** included 41 in the Bloodsworth Island area on July 3 (Armisteads), 3 immatures in DC on July 4 (Czaplak), and 6 at Eastern Neck on July 9 (Grubers).

Large Terns. The only report of **Gull-billed Terns** was of 3 at Ocean City on June 23 (O'Brien). **Caspian Terns**, which do not breed in the state, were seen occasionally in mid-summer, with 1 over Colgate Creek in Baltimore on June 8 (Wilkinson), 1 at Hains Point on July 1 (Czaplak), 2 at Point Lookout on July 8 (O'Brien), and 1 at Triadelphia on July 19 (Chestem). Substantial migration was obviously underway by July 23 when 330 Caspians were at Hart-Miller (Ringler +). For the first time in many years **Royal Terns** nested in the state as 7 nests with 1 egg were found at Barren Island on May 28 (H. Armistead +). Non-breeding or post-breeding Royals included 60 at Ocean City on June 23 (O'Brien), 22 at Bloodsworth Island on July 3 (Armisteads), 55 at Point Lookout on July 8 (O'Brien), the first juvenile of the season at North Beach on July 13 (Stasz), 315 at Hooper Island on July 23 (H. Armistead +), and 1 at Tilghman Island on July 23 (Reese). O'Brien also saw 2 **Sandwich Terns**, an adult and a first-summer bird, at Ocean City on June 23.

Small Terns. Henry Armistead's reports of nesting terns in the lower part of the bay include 62 **Common Tern** nests with 1-3 eggs at Barren Island on May 28 and 565 nests of small terns, mostly **Forster's Terns** with some Commons, on Spring Island on June 3. However, there were only 122 nests with eggs plus another with 1 young at the latter site on July 3, indicating that many nests were probably wiped out by the severe storms of June. O'Brien's count of Common Terns at Ocean City was 400 birds on June 23. Rare Western Maryland sightings of Forster's Terns were 2 at Cumberland on June 9 and 1 at North Branch on July 17 (Simons). High counts of Forster's were 225 at Elliott on June 24 (H. Armistead +) and 350 at Hart-Miller on July 23 (Ringler +). Nest reports of **Least Terns** were limited to 7 nests with 0-2 eggs at Barren Island on May 28 (H. Armistead +) and a nest with 2 eggs at Hart-Miller on the same day (Ringler +). In northern Anne Arundel County a Least Tern was seen flying over Furnace Creek, Glen Burnie on June 24 (Ricciardi) and 1 was at the Halethorpe Ponds area of Patapsco Valley SP on the same day (Smith). In the central part of the Eastern Shore there were up to 15 Least Terns at Easton High School on July 5-17 (Effinger), 1 at Denton on July 10 (Hewitt), 4 at Nanticoke on July 12 (Iliff) and 2 at Hog Island on July 17 (Engle).

Skimmers. There were 23 **Black Skimmer** nests with 0-4 eggs at Barren Island on May 28 (Armistead +). Other interesting reports from the bay were of 10 flying north at North Beach on June 17 (Stasz), 36 at Bloodsworth Island on July 3 (Armisteads), 5 at Flag Ponds on July 9 (Nate Erwin), 1 at Deal Island WMA on July 19 (Davidson, Raspberry), 3 at Cove Point on July 22 (Stasz), and 30 at Hooper Island on July 23 (H. Armistead +). At Ocean City on June 23 O'Brien estimated 275 skimmers.

Cuckoos. Eastern Shore reports of **Black-billed Cuckoos** were of 1 singing at Kings Creek on June 6 (Effinger), 1 near Shad Point, Wicomico County on June 11 (Dyké), and 1 at Remington Farms on June 29 (Grubers). Any Black-bills before the middle of June are likely to be migrants. On the Western Shore of the Coastal Plain 1 was heard in Severna Park on June 18 (Ricciardi), 1 was at PWRC on June 27 (O'Brien) and 1 was heard at Pasadena on July 4 (Ricciardi). A **Yellow-billed Cuckoo** was observed carrying nesting material at Sugar's Point, Talbot County on July 28 (Effinger) and an adult was on a nest at Denton on July 31 (Fletcher), both indicating the late nesting of this species.

Owls, Caprimulgids, Woodpeckers. Sightings of **Barn Owls** were 1 in South Baltimore on June 20 (Smith), 2 young at Poolesville on June 22 (Jay Schwartzman) through

July 6 (Bonham), and 1 roosting on a Peregrine Falcon hacking tower at Deal Island WMA on July 27 (Davidson). Skipper saw 2 immature **Barred Owls** at Bittering on July 1. Interesting reports of **Chuck-will's-widows** were 1 at Denton on June 20 (Nuttle), 1 at Soldier's Delight, Baltimore County through June 25 (Walbeck+), and a pair at Accokeek for the third consecutive year (Jett). Eastern Shore reports of **Red-headed Woodpeckers** included 1 at a nest site at Elliott on June 24 (O'Brien) and 1 at King's Creek on July 29 (Effinger). Pope saw a female **Hairy Woodpecker** with 1 large fledgling near Oakland on July 4.

Flycatchers. **Willow Flycatchers** that were either late spring migrants or prospecting in new areas to nest were 1 at Scientist Cliffs on June 12 (Janet Anderson), and in Kent County 1 on Eastern Neck on June 12 and 1 on Piney Neck on June 18 (both Droege). Reports of **Least Flycatchers** came from the breeding range with 1 on Green Ridge on June 9 (Simons), and in Garrett County 2 along the Oakland-Sang Run Road on June 11 and 1 at Herrington Manor and 1 on Snaggy Mountain Road on July 4 (all Pope). Pope also noticed a pair of **Great Crested Flycatchers** at a crack in a dead tree with possible nest material visible on Snaggy Mountain Road on June 29.

Swallows. Engle estimated 80 **Purple Martins** at Tanyard on July 25. Interesting reports of nesting **Tree Swallows** were adults feeding young in three bluebird houses at Tanyard on June 4 (Engle) and nesting at Centennial Park for the first time, also in a nest box (many observers). Other interesting sightings of Tree Swallows were 2 at Bloodsworth Island on June 3 (H. Armistead), 25 at Easton on June 6 (Effinger), 3 at Jug Bay on June 15 (Danny Bystrak), 1 at Southwest Area Park in Baltimore on June 28 (Smith), 2 at Cuckold Point on July 7 (Simon), and the high counts for the season, representing birds flocking for migration: 250 at Tanyard on July 8 (Engle) and 400 at Fairlee on July 19 (Grubers). O'Brien noted the first migrant **Northern Rough-winged Swallows** with 2 juveniles at Cornfield Harbor on July 8, and the only flock reported was 150 at Fairlee on July 19 (Grubers). Fall migrant **Bank Swallows** were 20 at Blackwater on July 3 (Armisteads), 1 at Cornfield Harbor on July 8 (O'Brien), 45 at Fairlee on July 14 with 100 there on July 19 (Grubers), 1 at Centennial Lake on July 15 (Solem, Magnusson, Chestem), and 25 at Wittman on July 28 (Effinger). Also counted among the fall migrants were 75 **Barn Swallows** at Sandy Point on July 12 (Davidson).

Corvids, Titmice, Nuthatches. Unusual on Tilghman Island on July 23 was a **Blue Jay** (Reese). The best report of **Common Ravens** from Garrett County was 4 flying over Backbone Mountain and 4 at Swallow Falls SP on June 11 (Pope). Pope also observed a pair of **Tufted Titmice** feeding young at Mountain Lake on June 1. A **Red-breasted Nuthatch**, a very rare breeder in the state, was at New Germany SP on June 2-18 (O'Brien+). A **Brown-headed Nuthatch** north of Rock Hall on June 12 (Droege) may be the northernmost in the bird's range. Other Brown-headed of note were 10 at Point Lookout on July 8 (O'Brien), 1 at Denton on July 25 (Nuttle), and 7 at Tilghman Island on July 30 (Reese).

Creepers, Wrens. A **Brown Creeper** was singing on Green Ridge on June 4-17 (Simons+). In Garrett County, where **Carolina Wrens** are just beginning to make a comeback, Pope saw a pair carrying nesting material at Mountain Lake Park on June 26, 4 young in a nest in a jug on the back porch on July 19, and young leaving that nest on July 30. This is a very late nesting for Carolina Wrens. The only **Winter Wren** report was of 1 heard at Laurel Run, Garrett County on July 2 (Dodge).

Reports of **Sedge Wrens** were of 3 at Elliott on June 18 (Yokel) and 1 heard near Gorman on July 2 (Dodge)

Kinglets, Gnatcatchers, Thrushes, Mimids. O'Brien found at least 15 **Golden-crowned Kinglets** at New Germany on June 3-4. The 2 **Blue-gray Gnatcatchers** that Reese saw at Tilghman Island on July 30 were probably early fall migrants. Magnusson and Chase found a **Veery** nest with 1 egg and 2 young near Schooley Mill Park on June 12. Pope observed **American Robins** nest-building in Oakland on the late date of July 2. An all-white **Northern Mockingbird** was seen at Dunkirk on June 6 (Dwayne & Pat Wagner).

Waxwings, Vireos. The Scudders saw a pair of **Cedar Waxwings** feeding 2 young at Concord on June 11-12, and the Grubers observed nesting pairs at Chestertown and Damsite on June 27. Waxwings are rare breeders on the Eastern Shore. Pope counted 8 waxwings in the Herrington Manor/Snaggy Mountain Road area of Garrett County on June 29 with 1 bird taking nest material from an old nest and using it to build a second nest 6-8 feet from the first one in the same tree at the same height. There were 2 remarkable reports of **Solitary Vireos** outside their breeding areas this summer with 1 heard singing in Columbia on June 18 (Scott Atkinson) and 1 at Rugby Hall on July 14 (Hank Taliaferro). Pope found a **Red-eyed Vireo** nest with 4 large young in Oakland on July 2.

Warblers. **Blue-winged Warblers** are rare in Garrett County, but a singing male was at Jennings Randolph Lake on June 3 (Blom +) and 1 was at Finzel on July 9 (Kiddy). Pope counted 6 **Magnolia Warblers** at Herrington Manor on July 4. In Western Maryland a female **Yellow-throated Warbler** was observed carrying nesting material at Spring Gap on June 2 (Ringer +) and 1 was at Herrington Manor on June 4 (Swift +) for an extraordinary Garrett County record. A late spring migrant was a **Blackpoll Warbler** at Rocky Gap on June 3 (Wilkinson). Possibly breeding on the central Eastern Shore were 2 adult **American Redstarts** chasing a robin at Denton on June 8 (Nuttle) and 2 adults near Tuckahoe SP in Queen Annes County on June 13 (Rittenhouse). The 2 redstarts at Wittman on July 30 (Effinger) were probably early fall migrants. Nesting **Prothonotary Warblers** were noted with adults feeding young in a nest at King's Creek on June 6 (Effinger), a pair feeding young in a nest at Spring Gap on July 8 (Kiddy), and birds nesting in a bluebird house at Federalsburg on July 17 (Inez Glime). A **Northern Waterthrush** on Green Ridge on June 10 (Simons) was remarkably late for a spring migrant. Czaplak found 2 singing male **Mourning Warblers** at Swallow Falls on June 4.

Tanagers, Grosbeaks, Buntings, Dickcissels. **Summer Tanagers** at rare breeding areas were 1 at Remington Farms on June 26 (Grubers) and a male at Prettyboy Reservoir in Baltimore County on July 22 (Paul Noell). Sightings of **Rose-breasted Grosbeaks** included 1 singing on Green Ridge on June 17 (Simons), a female feeding young in a nest at Kitzmiller on June 18 (O'Brien), and a pair with 1 young at Finzel on July 9 (Kiddy). Simons noted a pair of **Blue Grosbeaks** at Pinto Marsh on July 22. This may be the farthest west in the state that the species breeds. Short found an **Indigo Bunting** nest with 4 eggs at Denton on July 12. **Dickcissels** were not as abundant as last year, but in Kent County a male was near Chestertown on June 26, 3 singing males were along Airy Hill Road on June 30, and 2 males were at Massey on July 1 (Grubers). Another singing male was at Antietam Battlefield in Washington County on July 1 (Bob Augustine), and 1 was at Greensboro on July 30 (Rittenhouse, Nuttle +).

Sparrows. A fledgling **Chipping Sparrow** was being fed by an adult at Herrington Manor on July 4, and a **Vesper Sparrow** was carrying food and doing a broken wing display to a car on Turkey Neck Road on June 11, both in Garrett County (Pope). Vesper Sparrows are rare on the Coastal Plain, but 1 was at Remington Farms on June 28 (Gruber) and 1 near St. Marys River SP, St. Marys County on July 8 (O'Brien). A **Savannah Sparrow** singing near Taneytown on July 2 (Ringler) is rare in that part of the Piedmont. The Grubers estimated an incredible 80 **Grasshopper Sparrows** at Massey on July 1. Lower on the Eastern Shore where Grasshopper Sparrows are much less common, Dyke found 4 singing at Princess Anne on July 28. Reports of **Henslow's Sparrows** were up to 4 on Chestnut Grove Road, Garrett County on June 3 (Blom +) through July 2 (Jett) and 1 at Elliott on July 28 (Blom +). Harry Armistead and party counted 116 **Sharp-tailed Sparrows** at Elliott on June 24. Breeding **Swamp Sparrows** in Garrett County included 10 at Hammel Glade Swamp with 2 carrying food on June 29 and 10 at Cherry Creek Swamp with 1 nest-building on July 15 (Skipper). A new Piedmont location for Swamp Sparrow was near Hampstead where 1 was seen singing on July 2 (Ringler). A **White-throated Sparrow** singing at PWRC on June 6 (Paul Keywood) was a late migrant.

Bobolinks, Siskin. A **Bobolink** flying over Newark Farms, Harford County on June 7 (Kirkwood) was probably a late migrant, but a male at Wolf Swamp on June 11 (Kiddy) was probably a breeder. There were 2 intriguing sightings of flocks of Bobolinks on the Piedmont, both of which could have represented nesting activity. Miller estimated 10 pairs in Frederick County between Lewistown and Thurmont on June 14, and about 25 birds, including males and females, were at Keysville, Carroll County on July 2 (Ringler). A male Bobolink at King's Creek on July 29 (Effinger, Reese) was an early fall migrant. O'Brien reported a **Pine Siskin** flying over Frostburg on June 2, remarkable after so few were present during the winter.

6272 Pinyon Pine Court, Eldersburg, MD 21784

BOOK REVIEW

BIRDS OF YOSEMITE AND THE EAST SLOPE. David Gaines. 1988. Artemisia Press, P.O. Box 119, Lee Vining, CA 93541. 352 p., 2 maps, index. \$18.00.

At autumn equinox 1987, David Gaines wrote the Foreword of this "thorough revision" of his 1977 book, *Birds of the Yosemite Sierra*. Now he is dead, the victim of a tragic automobile accident in the land he loved best, but his book insures that Gaines' vital spirit lives on. David Gaines did not mean for this book to be a scientific treatise. What he so skillfully conveyed was "some of the essence of these fellow living beings we know as birds." His goal was to speak to the heart of bird lovers. Yosemite was opened up to me first through the writings of John Muir and the photographs of Ansel Adams. In July 1988 I made my first visit, led by Rich Stallcup. Now I shall be able to refresh my memory at leisure by reading Gaines. Since being introduced to the book (Rich Stallcup was his good friend), I've seen him posthumously on a National Audubon Society television special about Mono Lake, and read a tribute to him in *American Birds*.

Birds of Yosemite and the East Slope is a good-sized book for being limited to two relatively small geographical areas and not including bird identification, nesting, or feeding behavior. What it does focus on is the "relationship between birds and the Yosemite Sierra environment." The author points out that this is a "large subject given to the largeness of the area, not so much in the total square miles encompassed within its boundaries, but that the spirit encompassed by the area knows no bounds." He encourages us to pick around in the book with the small appetite of a sparrow, and to come back to it time and again as you would a valued reference. Turn first to the species accounts, then use the locality lists, and finally the cross reference. Be prepared to be caught up in the species accounts, being drawn from one bird to another, and then to just one more. You'll find the species accounts reflect the author's biases and enthusiasms, but still are informative and authoritative. For those who always read directions before starting something new, you will find the introduction to the organization of the book unflinching. If you care to jump right in, the species accounts are easy to read, the codes easily translated, and the Introduction is always there when you need it. I like the page of "Headlines" near the front of the book—newsworthy items the author found in his own book as he was proofreading it. Perhaps you'll find a few you'd consider worth a headline. There's room on the page to add your own.—*Joy Wheeler.*

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Editor: Chandler S. Robbins, 7900 Brooklyn Bridge Rd., Laurel, Md. 20707 (725-1176)

Assoc. Editor: Robert F. Ringler, 3501 Melody Lane, Baltimore, Md. 21207

Asst. Editors: Eirik A. T. Blom, 1618 Somerville Rd., Bel Air, Md. 21014
Mark Hoffman, 313 Fernwood Dr., Severna Park, Md. 21014
James Stasz, P.O. Box 71, North Beach, Md 20714

Mailing: Howard County Chapter

Headings: Schneider Design Associates, Baltimore