

# BIRD OBSERVER

OF EASTERN MASSACHUSETTS



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MUD HEN



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TABLE OF CONTENTS

BIRDING AT THE PRUDENTIAL CENTER.....HENRY T. WIGGIN 137  
 BIRDING AT SANDY NECK.....ROBERT F. PEASE 141  
 POLYMORPHISM.....JOSEPH T. LEVERICH 142  
 TERN CATASTROPHE.....WAYNE HANLEY 150  
 GREAT HORNED OWLS.....WAYNE HANLEY 152  
 ANSWER TO CROSSWORD PUZZLE.....JESSIE M. SNOW 152  
 SOME COMMENTS ON IDENTIFYING JAEGERS.....THOMAS H. DAVIS 154  
 THE BIRD OBSERVER SUMMARY FOR JULY 1974..... 155  
 THE BIRD OBSERVER SUMMARY FOR AUGUST 1974..... 160  
 PLANTING TO ATTRACT BIRDS.....HARRY F. SPRONG 166

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Subscription to BIRD OBSERVER is based on a calendar year, from January to December, at \$5.00 per year. Back issues to new subscribers will be supplied as available.

Articles, field notes, and photographs are welcome, though publication is not guaranteed.

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REGIONAL COMPILERS

Please send all of your reports before the 5th of the following month to any of the compilers in your area:

Regional Statistical Editor: Mrs. Ruth P. Emery, 225 Belmont Street, Wollaston 02170  
 Barnstable County: Mr. Blair Nikula, Park Street, Harwich 02645  
 Bristol County: Mrs. Phyllis Regan, 132R Horseneck Road, S. Dartmouth 02714  
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#### EDITOR'S PAGE

Several copies of our July-August issue were returned to us without labels. If you are a subscriber who did not receive Volume 2, Number 4, please notify us, and we will send you your copy. Extra copies of this or of any earlier issue may be obtained from us at the rate of \$1.00 per copy.

There will be a boat trip for pelagics from Provincetown to Stellwagen Bank on Saturday, October 26, 1974. To join this trip, mail \$5.00 deposit NOW to the leader, Mr. Stephen Grindley, 6 Cedar Rd., Littleton, Mass., 01460, or call Mr. Herman D'Entremont (617) 969-8146. On the corresponding boat trip in 1973, species seen included Common Puffin, Razorbill, Dovekie, and Leach's Storm-Petrel.

Are you plagued by birds smacking into one of your picture windows? S. Dillon Ripley, Secretary of the Smithsonian Institution of Washington, D.C., ornithologist and well-known author of bird books, has invented a black-vinyl sticker silhouette of a diving falcon to paste on that window; it will effectively prevent collisions in the future. Dr. Ripley calls his invention the "Shoo Bird," and it is available for \$1.50 plus 50 cents handling from the

Smithsonian Museum Shops  
Museum of Natural History  
Washington, D.C., 20560.

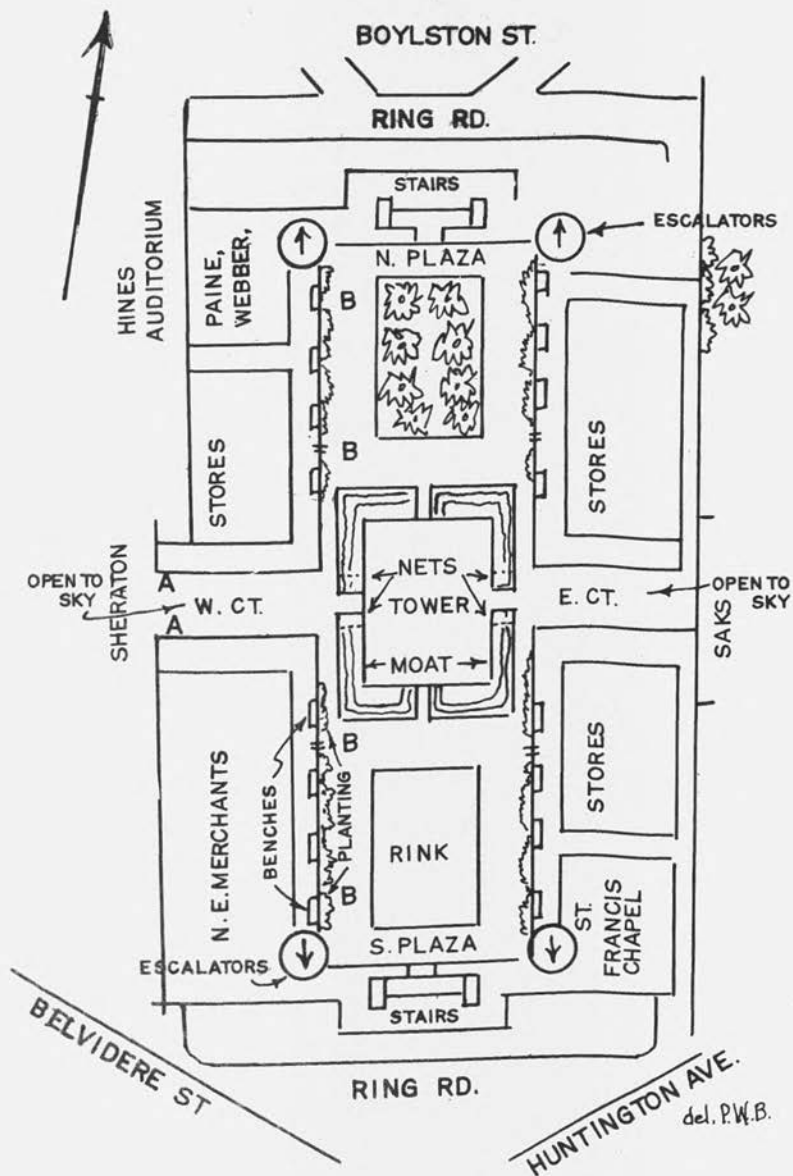
One of the largest single efforts in North America to insure the future of wildlife ---the Migratory Bird Hunting Stamp program---is being expanded this year to encourage citizens outside the hunting community to participate, according to Rogers C. B. Morton, Secretary of the Interior. The duck stamp is a revenue stamp required of every duck hunter 16 years of age or older, but conservationists of all persuasions can make a solid contribution to wildlife preservation by buying the stamp for five dollars at their local post office. The revenue thus generated goes directly into the purchase of lands for waterfowl nesting, resting, and wintering.

Since 1934 over two million acres of land have been purchased with duck stamp revenues. Average annual receipts now total about \$11 million, and in the last three years alone, over 360,000 acres have been set aside for wildlife. At present, acquisitions are centered in the "prairie pothole duck factory" region of the north-central United States. Massachusetts birders should remember, however, that both Plum Island and Great Meadows were purchased by means of funds generated by the sale of these stamps. We of the Commonwealth have every reason to support this program. BUY NOW!

Margaret F. Wood, of Ipswich, Mass., writes to BIRD OBSERVER:

"On Wednesday, September 11, 1974, some friends on North Ridge Road, Great Neck, Ipswich, were watching Purple Martins lined up on the telephone wires in front of their home. These friends have had Purple Martin houses for a number of years and have had many Purple Martin families. This day one male Purple Martin fell off the wire and landed on their lawn--dead. Later in the day, two female Purple Martins did the same thing...North Ridge Road is one of the streets fogged weekly with malathion and fuel oil. I have seen the fog blown directly into the Purple Martin houses while nesting was going on."

Near-by residents and visitors to the area should be alert to this pollution problem. Any dead bird found here should be taken to Massachusetts Audubon in Lincoln, Mass. If the finder cannot bring the specimen in immediately, it is advisable to freeze the body until the trip can be made.



A--Used to be excellent, poor since addition to hotel. Prior to 1974 I would free anywhere from one to thirty birds daily during migration season. The birds would come down the opening at West Court and then bang against the glass. They seemed unable to figure out that if they flew straight up they could escape.

B--The westerly side: by far, more birds on this side than on the easterly side.

BIRDING AT THE PRUDENTIAL CENTER

by Henry T. Wiggin, Brookline

If a birder were to bird only the Prudential Center, he might come to some weird conclusions. Based on his observations there, he would think

- 1) White-throated Sparrows are by far the most abundant species in this part of the state, in numbers equal to or exceeding all the other species combined.
- 2) The Sparrow-Finch family (Fringillids) far outnumbers all other families put together, by a factor of 7.
- 3) Alas, the poor Robin! It must have gone the way of the Labrador Duck!! Although thrushes are the third most prevalent family at the Pru (after Fringillids and Wood Warblers), there has NEVER been a Robin record from there.
- 4) The swallows too have vanished, like the Carolina Parakeet. There are no swallow records from the Pru.
- 5) The Short-billed Marsh Wren is a fairly regular migrant, with four positive identifications in the last years.
- 6) Lincoln's Sparrow is a regular, EASILY SEEN migrant in both spring and fall. A steady Pru observer should see at least three or four Lincoln's Sparrows annually, and he will have an excellent look at them. On May 4, 1968, 18 dead Lincoln's Sparrows were picked up at the Pru after a thick fog. I saw 5 on May 12, 1970. Most of them were exhausted---two in my hands at once and another only two feet away! On May 25, 1971, there were 6 live and 3 dead individuals of this species.
- 7) The Orange-crowned Warbler is a regular fall visitor (8 individuals in 7 autumns).
- 8) Migrating birds are relatively easy to pick up in one's hands, although the White-crowned Sparrow must be handled cautiously---it bites!
- 9) On migration, birds alight with complete disregard for normal habitat preferences, and not one in a hundred ever sings.

NUMBERS AT THE PRUDENTIAL CENTER: SEPTEMBER 1967--MAY 1974

Species: 67 species have been picked up dead, plus 2 additional subspecies.

91 species have been seen alive, plus 2 additional subspecies.

Individuals: (per cents within each category are rounded off, and values less than 0.5% are omitted)

Species or Family	Dead		Live	
	Number	% of Total	Number	% of Total
Black Duck			1	
Hawks			18	
American Woodcock	10		1	
Mourning Dove	1			
Goatsuckers/Swifts	3		7	
Ruby-throated Hummingbird	5		1	
Woodpeckers	3		2	
Flycatchers	1		4	
Jays/Crows/Titmice			9	
Nuthatches/Creepers	18	1	7	
Wrens	3		10	
Mimic Thrushes	20	1	41	1
Kinglets/Gnatcatchers	18	1	30	1
Pipits			3	
Thrushes	78	3	92	2
Starlings			2	
Vireos	3		4	
Wood Warblers	450	18	351	8
House Sparrows			10	
Blackbirds/Orioles	1		2	
Scarlet Tanager	1		3	
Sparrows/Finches	1898	76	4084	87
Totals	2513	100	4682	100

MEMORABLE DAYS AT THE PRUDENTIAL CENTER:

- September 11, 1967: My first day of birding there, my office having moved from downtown Boston to the Prudential's 45th floor the day before. On my lunch period, as I was walking to one of the stores, there at my feet, inside the glass, on the concrete, hopped a Long-billed Marsh Wren.
- October 2, 1967: 31 individuals of 11 species dead; 33 birds of 14 species live, including (Bicknell's) Gray-cheeked Thrush and a Black-headed Grosbeak. All birds were only a few feet away, which is the rule rather than the exception at the Prudential.
- October 5, 1967: Bennett Keenan saw a Cooper's Hawk chase a Rufous-sided Towhee. I missed that, but did see our first Short-billed Marsh Wren. Ben went to the Massachusetts Audubon's Boston office (they had one in those days) and brought Ruth Emery back. The power mowers were in operation by then, but the wren continued to hop around within three feet of all who were interested. The 17 species at the Pru that day also included a Yellow-throated Vireo, an Orange-crowned Warbler, and a Lincoln's Sparrow.
- October 13, 1967: Over 200 dead birds (70% White-throated Sparrows and 30% Dark-eyed Juncos), plus an Orange-crowned Warbler, exhausted but alive.
- December 4, 1967: A Peregrine Falcon zoomed past my 45th floor office. (Peregrines were also seen December 8, 1968, September 29, 1969, November 17, 1970, October 4, 1972, October 17, 1972 and April 13, 1973.)
- December 26, 1967: A Rough-legged Hawk circled around.
- May 4, 1968: Approximately 700 dead birds of 21 species, including 40 Swamp Sparrows, 18 Lincoln's Sparrows, 3 Whip-poor-wills and 1 Least Flycatcher (the only record for that species).
- May 10, 1968: A White-eyed Vireo was singly loudly in the flowering shrub in front of the office of Paine, Webber, Jackson and Curtis.
- October 17, 1968: Bennett Keenan, Herbert Pratt and I finally saw well a Seaside Sparrow after 30 minutes of chasing it. The bird would hide in the pachysandra, not fly until it was almost stepped on, then take off and fly 50 feet or so, dropping again, as if shot, into another pile of pachysandra.
- October 23, 1968: Another Short-billed Marsh Wren, so close that one's binoculars couldn't focus on it.
- April 29, 1969: A Merlin was trapped between the storefronts and the glass. It zoomed around madly, startling more than one early arriver at the Pru, before one of the maintenance men put thick gloves on and caught it. Another flung the door open, and the hawk was thrown out the door. He flew off to wild cheers by one and all.
- September 18, 1969: A Water Pipit flew overhead, calling.
- September 22, 1969: Keenan found 3 dead Ruby-throated Hummingbirds, that had flown into the glass---all within a foot of each other.
- September 29, 1969: Highlights included a Winter Wren, a Red Bat, and a Peregrine Falcon.
- October 8, 1969: Short-billed Marsh Wren number 3.
- October 22, 1969: 280 dead birds of 25 species, including a Woodcock, a Grasshopper Sparrow, 9 White-crowned Sparrows, 2 Lincoln's Sparrows, and 3 Yellow-breasted Chats. Around 300 birds of 11 species alive.
- November 14, 1969: 134 dead Fox Sparrows at the Pru, and 46 dead birds of other species, including 25 Tree Sparrows and 2 Woodcocks.

November 26, 1969: 7 Red Crossbills flew by the 49th floor dining room at the Merchants.

May 29, 1970: The only Common Crow ever seen at the Pru flew by.

September 15, 1970: 63 individuals dead of 14 species, including 17 Northern Waterthrushes and a Mourning Warbler. Alive were 42 individuals of 8 species, including 15 Northern Waterthrushes, 15 American Redstarts and a Winter Wren.

October 1, 1970: One of the maintenance men rescued a Common Nighthawk that was drowning in the moat. He didn't know what to do with the soggy goatsucker--Ah, that crazy little birdwatcher would know what to do with it. The trouble was that he thought that I was on the 43rd floor (I'm on the 45th). So up he came on the elevator with the reviving Nighthawk starting to flap its wings and spreading water in all directions. The maintenance man, who could speak maybe 15 words of English, strode steadily ahead, in through an office door, and proudly presented the bedraggled bird to the President of a multi-million dollar corporation. After five minutes of pandemonium, the maintenance man took back his unwanted gift, went back down the elevator, out the door, and let the bird fly off.

October 8, 1970: A Scarlet Tanager was drowning in the moat. Naturally, I waded in (only slightly over my knees) and rescued the bird. I took him home, fed him some of my dog's hamburger, and he flew off. I have also gone into the moat to rescue 2 Lincoln's Sparrows going down for the last time. Would I do it for a White-throat? I just don't know; I've never seen one caught in the moat.

November 12, 1970: Rescued a Yellow-breasted Chat that was banging continuously against the glass behind a bench.

January 25, 1971: A Black Duck spent a week in the moat, surviving on the cracked corn that I fed him daily.

May 3-13, 1971 (4 dates): 4 different Whip-poor-wills rescued from behind the benches and released outside.

May 6, 1971: A dead Louisiana Waterthrush, which was taken by Massachusetts Audubon.

May 25, 1971: The finest day ever at the Pru, and probably there will never be a finer. 17 individuals of 9 species dead, including an Orange-crowned Warbler and 3 Lincoln's Sparrows. Alive: 47 individuals of 19 species, including 1 Common Nighthawk, 1 Yellow-bellied Flycatcher (perched three feet from me on a railing), 1 Long-billed Marsh Wren, 1 Philadelphia Vireo, 1 Worm-eating Warbler, 1 Orange-crowned Warbler, 1 male Cerulean Warbler, 1 male Kentucky Warbler and 6 Lincoln's Sparrows.

May 28, 1971: A stunned Mourning Warbler was picked up by Hollis Leverett and released.

September 27, 1972: The only Blue Jay ever seen at the Pru flew over.

September 10, 1973: An Osprey circled twice, then flew off. An Olive-sided Flycatcher was fluttering against the glass in front of the Merchants Bank. I caught him, took him outside, and let him loose.

May 16, 1974: A dead Red-breasted Nuthatch and a Yellow-throated Vireo.

May 23, 1974: Only two birds were at the Pru, one a Gray Catbird, the other a Short-billed Marsh Wren. Once again, the bird was at my feet so that all field marks could be picked out by the naked eye.

#### DISCUSSION:

Birding at the Prudential Center often runs to extremes. On certain days, the entire area is flooded with birds; on other days, it is nearly deserted. Bennett Keenan and I, who have studied the Prudential's birds more thoroughly than anyone else, have concluded that the best birding there results from a combination of several factors:



1) The weather should be favorable for migration at the point from which the birds take off. In the spring, this might mean clear weather in Philadelphia; in the fall, good weather in mid-Maine.

2) Winds should parallel the migration route in the spring, i.e., they should come from the south-west. In the fall north-west winds are best, since they tend to concentrate the birds along the Atlantic Coast.

3) The best birding results at the Pru if the above conditions are fulfilled and if fog or rain should happen to move in during the early morning hours, when the migrants are already over the Boston area. Apparently, the birds become dis-oriented, mill around, and are finally attracted by the light on top of the Prudential tower. As daylight comes, the birds are brought down by the many kinds of ground cover, shrubs and trees, on both the Huntington Avenue and the Boylston Street side of the Prudential complex.

Needless to say, our theory does not always work. Sometimes conditions occur which seem perfect for Pru birding--and there are no birds. Other times there is no rain or fog, yet the birds are there. As a general rule, however, Ben's and my theory succeeds more often than it fails.

Another point to remember about Prudential birding: generally, the birds act totally differently at the Pru than they do anywhere else that I have ever birded. Birds hop around at your feet. When a bird does fly, no matter what the species, it behaves like a Sharp-tailed or a Seaside Sparrow, flying just a short distance and then dropping vertically into a small clump of ground cover from which it is extremely difficult to flush. Many times I have seen birds go under such clumps no bigger than a pocket handkerchief---never to see them again.

I have wondered for years why the birds always favored the west side of the Prudential area. In my years there, I have seen hundreds of birds trapped between the storefronts and the glass, but always on the western side, and never a bird trapped on the eastern side. This spring Margaret Argue pointed out that the western side was the sunny side, and this could be an explanation. It would not explain why the birds are also on the west side on those days when it is foggy or rainy, but I do think Margaret's point is well-taken. Even outside the glass, the birds constantly favor the western side of the complex.

Many migrants glance off the glass windows, fall into the moat, and drown. It would cut down mortality if the moats could be drained from April 1 to May 30, and again from September 15 to November 15. The Prudential management did install four nets (position shown on the chart), and this has cut down on the deaths considerably ---a fine, public-spirited action.

A possible explanation for the failure of Robins or swallows to be recorded at the Pru is that they are diurnal migrants. They are not so apt to lose their bearings during the daylight hours and would not land at the Pru as the nocturnal migrants do. But why should White-throated Sparrows outnumber all the rest of the species put together? And why does the Sparrow-Finch family outnumber all other families by a 7 to 1 ratio? Why have there been so many Short-billed Marsh Wrens there? Is that species actually less rare than birders realize? The species is such a skulker that it may slip through this area unseen, except at the Pru where this is not possible. Why has the birding at the Pru been less productive in 1972-1974?

I would appreciate it if anyone with a possible answer for any of my questions would call me. I also hope to see more birders at the Prudential. How many Short-billed Marsh Wrens have you seen lately?

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All Houghton Mifflin Co. books, including the Peterson Field Guide series and Lansdowne, Birds of Eastern Forest, are available at 20% off from

Herman D'Entremont  
P. O. Box 507  
Newton Center, Mass. 02159



## BIRDING AT SANDY NECK

by Robert F. Pease, East Sandwich

From early September through November, Sandy Neck in Barnstable can be an exceptional spot for bird watching. During prolonged northeast storms virtually every hour spent in this area can be guaranteed its reward.

To reach this location from Boston, come south on Route 3 and cross the Cape Cod Canal over the Sagamore Bridge. Take Exit number 4 onto Chase Road. At the first fork (after less than a mile), bear right over a small railroad bridge, and continue for another mile until you reach Jones Lane. Turn left onto Jones Lane and then right onto Route 6A. After only a couple of hundred yards on 6A, turn left at the Sandy Neck Motel. This road leads directly to the parking area for Sandy Neck Beach.

The east-west coastline of Sandy Neck is an excellent spot from which to observe pelagic birds which have been pushed shoreward by northeasterly storms and then trapped by Cape Cod Bay's peculiar three-sided land configuration. Since most coastal storms in the fall involve high winds, rain or snow, fog, blowing sand, and bitter cold, Sandy Neck's location is ideal in that one can park his car facing due north. The elements will strike the right side of the car, which can be kept closed, while the observer, in relative comfort, looks left over a ninety degree arc of water. This positioning is especially good since most birds tend to move from west to east along the shore, in clear view as they approach the parking lot. Should a high tide coincide with the period of watching, many of the most exciting birds may pass within a hundred yards of one's car, often at eye level, or just below it.

Birds seen with great frequency during the storm conditions just described include jaegers (often in flocks!), Gannets, Black-legged Kittiwakes, phalaropes and shearwaters. The Manx Shearwater is especially regular off Sandy Neck, while Leach's Storm-Petrel has a long-established reputation for regular occurrence in late September and October. With these numbers of pelagics present on occasion, it is not surprising that such local rarities as the Northern Fulmar, Long-tailed Jaeger, and Common Puffin have been recorded. Numbers of alcids have been seen during storms in late fall or early winter.

For those who are equipped to travel the beach, the seven-mile trip out to the point of Sandy Neck can prove very worthwhile. The outer beach has breeding Piping Plovers in the summer, and the American Oystercatcher has also summered there in several recent years. At a rocky inlet about one mile from the point (on the bay side) is a fine area for observing terns and shorebirds (about two hours before high tide). Ruddy Turnstones, Red Knots, Dunlin and Sanderlings are among the common species to be expected, but one may also see flocks of Black Terns or of Sooty Shearwaters in season, and such specialities as the American Avocet have also been recorded.

The adjacent sand dunes and thickets offer fine pockets for fall migrating landbirds, and the Pitch Pines hold breeding Pine Warblers and Great Horned Owls. Early mornings following cold fronts and northwest winds in September are best for these thickets. In the cold months, flocks of Snow Buntings are common in the exposed areas, especially near the parking lot. With patience, Savannah (Ipswich) Sparrows can be found in the same area.

The marshes behind the dunes cover many square miles and are a major breeding area for Sharp-tailed Sparrows. Clapper Rails, Short-eared Owls, and hundreds of Brant and waterfowl can often be seen here in proper season. In September, Snowy Egrets and Great Blue Herons are a common sight. On the right of the entrance road, just before reaching the point at which the parking fee is collected in the summer, there is a new development called Point Hill. If you drive into the development and take the second left, you will reach a superlative vantage point overlooking all of the marshes as far as Barnstable Harbor. This is the best vantage point from which to observe the marshes when they are flooded by storms.

The Sandy Neck region is varied and extensive and well deserves the increased attention it is beginning to receive from birders.

#### IV. POLYMORPHISM

J. T. Leverich, Cambridge

The term polymorphism has a long and interesting history in biology. Darwin used it of genera and species which presented "an inordinate amount of variation." At a later date the term came to be used particularly of those biological entities which assume markedly different forms at different stages of development, e.g., the various species of caterpillar/butterfly. Today's usage is more carefully circumscribed, and the word now refers to one particular class of biological phenomena, found throughout the animal and plant worlds. I shall begin by discussing the essential elements of the present-day definition:

1. Polymorphism always refers to variation within a single population of interbreeding individuals. Species that present several different forms or varieties at different geographical locations are said to be polytypic, and we divide them into two or more subspecies or races, one for each such clearly differentiated "type." Polymorphism, by contrast, always refers to the occurrence of two or more varieties or morphs at one and the same place.

The amount of polymorphism present in a species may well vary from race to race. A well-known example of this is the Bananaquit (*Coereba flaveola*). This highly variable species consists of 41 separate subspecies, 22 of which are restricted to one or more islands in the Caribbean. ([9], pp. 87-93) One morph (with a white, instead of a gray, throat) occurs only on Isla Cozumel. Black-morph individuals predominate on Grenada and St. Vincent, and they also occur on Los Roques and Los Testigos; i.e., this morph is present in different proportions in 4 races and toally absent from 37.

2. Polymorphism is a form of genotypic variation, by which two points are meant:

- a. Polymorphism refers to an inherited condition, and
- b. Different morphs result from the expression of different "genes" which replace each other on the chromosome. (In technical language, we say they are different alleles of a single gene.)

The reddish pigment of the Purple Finch and Crossbill group often disappears in caged birds, new plumages being more greenish-yellow in coloration. However, this change is environmentally induced, and not inherited. ([2]), p. 270) Greenish-yellow Purple Finches do not, therefore, constitute a separate morph for this species.

Again, first-year birds of the Little Blue Heron (*Florida caerulea*) are all-white; mature birds are completely dark. Since these color stages occur in one and the same individual, it is obvious that the different forms cannot be attributed to the action of distinct alleles. Modern ornithologists refer to this phenomenon as polyphenism, not as polymorphism. (Illustrations of the two phenena can be found in [18], p. 95, and in [16], Plate 20.)

3. Polymorphism is a form of discontinuous variation.

Individuals from a local population of a given species ordinarily differ from each other only in slight ways. Most frequently, each single varying character intergrades, presenting a completely continuous spectrum of variation between two extremes. In certain species, however, individuals may be grouped into two or more discrete classes, defined by the presence or absence of certain fairly conspicuous attributes. Polymorphism is properly used only of these latter species.

Curiously, continuous variation (even when the range of variation is small) is thought to be due to the composite effects of many interacting genes, each of which is presumed to be responsible for only a minute amount of the total variation. It is usually adaptive in nature, correlating well with certain changes in the environment and contributing thereby to the over-all fitness of the individual to survive amidst these altered surroundings.

By contrast, polymorphism is generally non-adaptive in nature. Though frequently dramatic in its expression, it is thought to be controlled by a limited number of genes, often by a single gene, operating according to the classic principles of Mendelian inheritance.

4. Polymorphism refers to forms of variation which are not sex-associated, i.e., two or more morphs must occur within one or the other of the two sexes. (In Massachusetts, all instances of polymorphism are based on characters which are exhibited by both sexes.)

The one situation firmly excluded by this principle is the very common case in which one morph is confined to the male, and the other morph is characteristic of the female. This phenomenon is referred to as sexual dimorphism, not as polymorphism.

#### Polymorph Characters

Any character--anatomical, morphological, physiological or behavioral--may form the basis for an application of the term polymorphism, provided that character fulfils the conditions enumerated above. Historically, the vast majority of instances of polymorphism have been cases of conspicuous dichromatism, i.e., the occurrence of two or more color phases within one species. Usually, it is possible to describe all but one of the morphs as having an "excess" of some certain color pigment. The remaining morph is then taken to be the "normal" or "wild-phase" morph. In the table below are the technical names commonly used to describe certain of the "abnormal" morphs:

<u>Name</u>	<u>Description</u>
1. flavistic, or xanthochroistic	with an excess of yellow pigmentation
2. erythristic	showing an excess of reddish pigmentation
3. melanistic	displaying an excess of black or brown pigmentation
4. leucistic	having a pure white plumage, OR manifesting the wild-phase coloration pattern with extreme paleness
5. schizochromatic	exhibiting abnormal patches of color (usually white) in the plumage

(NOTE: Until very recently, leucism was referred to as albinism, but this latter term is now reserved for individuals that are totally devoid of any pigmentation. Albinos, therefore, are completely white with pink soft parts and pink eyes. In birds, true albinism is a "freak" condition, never a color phase. The same is usually true of partial albinism (i.e., schizochromism). (But cf. no. 5 in the list below.) (Leucistic morphs, on the other hand, are extremely common.)

Polymorphism is not confined to plumage characteristics. The honey-eater Melidectes belfordi displays epidermal polymorphism: some individuals have cheek wattles, some have throat wattles, and some have both. Other examples of polymorphism involve tooth structures (in mammals), winding pattern (in snail shells), and wing-vein patterns (in insects). ([12], p. 153) Parrots are behaviorally polymorphic, each individual being predominantly left-footed or right-footed. ([6], p. 29)

In all of the above examples, the various polymorph classes are more or less conspicuously differentiated. Defining characteristics are immediately perceivable by the unaided human senses. Anatomical or physiological polymorphism, on the other hand, is detectable only by means of laboratory analyses; it is consequently said to be cryptic (hidden). Birds, like humans, belong to different blood groups. ([12], p. 153) Among the lower animals, other instances of physiological polymorphism have to do with tolerance of heat, need for water, transplant tissue tolerance, etc.

#### Confusing aspects of polymorphism

In a classic case of polymorphism only two morphs appear, each form being characteristic of one member of a pair of gene alleles. One allele, say A, will be completely dominant over the other, a. By this statement we mean that heterozygotes (i.e., individuals of mixed genetic background which carry both alleles, A and a) will appear identical to "pure-bred" individuals carrying duplicate A-alleles.

Genes, however, are seldom so decorous. Here are some of the irregularities that may be manifested in certain cases of polymorphism:

1. Heterozygotes (Aa) may appear as intermediates, presenting certain characteristics of each of the two basic types. There will then be three distinct morphs instead of the expected two.

2. Certain dominant genes suffer from incomplete penetrance, i.e., they do not always express themselves completely, even when they occur in "pure-bred" (homozygous) individuals. The condition results from genetic interactions. Some other gene, not an allele of A, presumably creates a chemical product which interferes with the gene product which A elaborates; and this in turn results in the modification or total suppression of the characters normally attributable to A. (Cf. nos. 3 and 9 in the list below.)

3. Although a polytypic species often displays apparently the same set of color phases in each of its subspecies, the genetic bases for this polymorphism may vary geographically. Thus, polymorphism often breaks down completely along subspecific boundaries, where individuals of separate races meet and hybridize. A baffling array of "intermediates" results. (Cf. no. 10 in the list below.)

4. Certain cases of polymorphism are due to the simultaneous action of two or more independently operating sets of gene alleles. It is as if there were two or more separate forms of polymorphism superimposed upon each other. The Asiatic bulbul (Microscelis leucocephalus) displays this situation at its worst, with six basic types and a medley of intermediate combinations derived from these types. (Cf. [13], pp. 83-84.)

5. Finally, a few cases of "polymorphism" exhibit essentially continuous variation. (Cf. nos. 2 and 13 below.) It seems likely that the term is, in fact, inappropriately applied to these species, but the usage is sanctified by tradition.

#### Why does the ornithologist study polymorphism?

Polymorphic variants (morphs) often differ strikingly from the "normal" or wild-phase type of a population, so much so that over 100 of these forms were originally described as separate species. The ornithologist must understand polymorphism if he is to classify his specimens correctly according to species.

In the recent Check-List Supplement ([20]), three "species pairs" were lumped as polymorphic forms of a single species. A similar fate may well await three more "species pairs," currently under investigation:

1. Brant (Branta bernicla)  
Black Brant (Branta nigricans)
2. Eurasian Oystercatcher (Haematopus ostralegus)  
Black Oystercatcher (Haematopus bachmani)
3. Ringed Plover (Charadrius hiaticula)  
Semipalmated Plover (Charadrius semipalmatus)

(Cf. [14], pp. 88-89.)

Secondly, polymorphism is of interest to ornithologists because, by definition, it represents a conspicuous and elementary case of genetic variation. In other words, polymorphism represents the most convenient and accessible way to study the genetics of populations. Much current interest centers on research into the manifold effects of single-gene alterations. Very little is known in this area concerning birds; much more has been established for humans. Did you know that humans of blood-type A are more susceptible to stomach carcinoma (by 10%), to pernicious anemia, diabetes, fatal infantile broncho-pneumonia, portal cirrhosis and to hip fractures? ([12], p. 161) Detailed correlations of this sort are not as yet established for any avian morph, but ornithologists are convinced that they exist. Is the Blue Goose more tolerant of heat than the Snow Goose? Can it fly faster? Can the Great White Heron digest certain toads which the Great Blue most avoid? These or similar questions may soon be answered by ornithologists researching the different varieties of polymorphic species.

#### The Massachusetts "Check-List"

To complete this article, I have assembled a list of those polymorphic species which are known to have occurred in Massachusetts. I have included even those species for which it

is known that alternate morphs do not occur here. In all too many cases I was unable to ascertain exactly which morphs are on record for this state. Hopefully, future reports will be more complete.

References are given to commonly available field guides, whenever these books contain appropriate illustrations. Short descriptions supplement the field guide information where necessary

1. Western Grebe (Aechmophorus occidentalis)

Two color phases:

- 1) Black of crown extends below eye; bill is dusky to yellow-buff.
- 2) Black of crown extends down to eye or terminates above eye; bill is yellow.

Illustrations: 1) in [15], p. 99; 2) in [18], p. 21 or [16], Pl. 1. Polymorphism in this species is discussed by Storer [19].

2. Northern Fulmar (Fulmarus glacialis)

Four morphs are recognized: 1) double light, 2) light, 3) dark and 4) double dark. All four are portrayed in Palmer ([15], plate facing p. 60). Illustrations of morphs 1) and 4) can be found in [18], p. 23, and [16], Pl. 4. Palmer says (p. 60) that individual variation is actually fairly continuous from lightest to darkest. Dark birds predominate in the far north; lighter individuals are more likely in Massachusetts waters. There are no "dark-phase" specimens from this state, according to Griscom and Snyder ([7], p. 25).

3. Great Blue Heron (Ardea herodias)

Two or more color phases in the South Florida population:

- 1) normal blue phase
- 2) leucistic (white) phase, formerly known as the Great White Heron ("A. occidentalis")
- 3) dilutants, i.e., pale birds having the color pattern of the normal blue morph. In some of the literature, these individuals are referred to as "Ward's Heron." The name seems inappropriate: A. h. wardi is the subspecies breeding throughout the southeastern states; dilutants are localized in Florida, particularly in the outer keys.
- 4) Würdemann's Heron, resembling a pale, blue-phase bird, but with an all-white head.

Ornithologists are just beginning to understand the genetics of this species properly. Categories 3) and 4) above may represent true and distinct color phases, or they may consist entirely of heterozygotes. The most likely explanation, however, is that these two categories represent instances of incomplete penetrance. Morphs 1) and 2) are illustrated in [18], pp. 93 and 95, and in [16], Plate 20. Morphs 1), 2) and 4) are illustrated in [15], plate facing p. 278. White-phase birds have occurred as far north as Pennsylvania. Griscom reported a "Ward's Heron" from Monomoy in 1946. ([1], p. 41.)

4. Green Heron (Butorides virescens)

There is a dark reddish (erythristic) phase, individuals of which have been found in Cuba and the Isle of Pines. ([15], p. 416) This phase has never occurred within the A.O.U. Checklist area.

5. Reddish Egret (Dichromanassa rufescens)

Two color phases: 1) red (erythristic) and 2) white (leucistic).

A rare species in that the two morphs are apparent even in the natal down at hatching! There are also occasional dark birds with patches of white scattered throughout the plumage (schizochromism). (Illustrations: [18], p. 95; [16], Pl. 20.) Bailey ([1], p. 42) reports one sight record for this species from Monomoy in 1953. Presumably this was a red-phase bird.

6. Black-crowned Night Heron (Nycticorax nycticorax)

In South America, this species occurs in two phases (light and dark), with



intermediates also present. The subspecies in our area consists entirely of light-phase birds.

7. Least Bittern (Ixobrychus exilis)

There is a rare, dark phase of this species, known as Cory's Least Bittern, which occurs in eastern North America. In this phase, the lighter areas of normal-phase birds are deep russet or chocolate. A specimen of this morph was taken in Scituate in 1901, and an additional sight record from 1945 exists. ([7], p. 35) The center of abundance for this phase is apparently near Toronto, Ontario.

8. Brant (Branta bernicla)

Listed in the 1957 A.O.U. Checklist as two species (cf. above). The light morph is the normal form in this state, but there are two specimens and several sight records of the dark morph. ([7], p. 40) Most populations are monomorphic, but both phases apparently occur in the Banks Island area of Canada. Literature supporting the merger of the two species into one species is cited in Mayr and Short ([14], pp. 32-33). Whether the variation involves a case of true polymorphism is still under investigation. (Illustrations: [18], p. 41; [16], Pl. 10 and 11--morph 1) only.)

9. Snow Goose (Chen caerulescens)

Two morphs: 1) White, and 2) wild-phase, formerly known as the Blue Goose. Both forms are illustrated in [18], p. 43, and [16], Pl. 11. Occasionally "intermediates" appear. One is illustrated in [17], Pl. 9.

This particular case of polymorphism is now quite well understood. The two morphs result from the action of two alternative forms (alleles) of a single gene, and this gene is not sex-linked. The blue-morph allele is complete dominant; the white-morph allele, recessive. Both morphs are somewhat variable, and this variability have been ascribed to environmental influences as well as the effects of modifier genes (incomplete penetrance). Every individual, however, belongs definitely to one or the other of the two forms. The picture in [17] is of a variant Blue Goose, not of a "hybrid." (Cf. Cooke and Mirsky, [5].)

The dark morph occurs only in the western race, the Lesser Snow Goose (C. c. caerulescens). It is apparently due to a recent mutation and is at present spreading rapidly throughout the race. Massachusetts birds are primarily from the eastern subspecies, which explains the relative scarcity of blue-phase birds. "Blue Geese" are, however, almost regular in the state.

(NOTE: General remarks on the Falconiformes.

A great many hawks are polymorphic, often exhibiting more than the usual two morphs per species. Field guides are, in general, fairly exemplary in their treatment of this problem. For example, Robbins [18] illustrates 15 forms in 6 species. However, polymorphism in hawks is extremely complicated, with the number of forms varying from race to race and many examples of "boundary break-up" along subspecific borders. Cf. [8], for flight silhouettes and detailed morph descriptions.)

10. Red-tailed Hawk (Buteo jamaicensis)

Three phases in the West (light, red and dark); eastern birds are of the light phase. In the Northwest, the subspecies formerly known as Harlan's Hawk (now B. j. harlani) shows light and dark phases, but no red. Frequent instances of "boundary break-up" along the Mississippi River and in the Prairie States.

11. Swainson's Hawk (Buteo swainsoni)

Light and dark phases, with intermediates. Immature plumages are uniform, and it takes 3-4 years for the "adult" polymorphic plumages to develop fully. Most New England specimens are dark-phase birds! (Cf. [7], p. 70.)

12. Broad-winged Hawk (Buteo platypterus)

The rare dark phase is "virtually indistinguishable in the field from the dark phase of the Short-tailed Hawk (Buteo brachyurus) in tropical climates." ([8], p. 274;

with illustration of the latter, p. 272. Cf. also, [18], p. 75.) The dark phase seems not to be on record for this state.

13. Rough-legged Hawk (Buteo lagopus)

Two morphs (light and dark) are usually named; but, in fact, the variation is more or less continuous. Certain of the morph characteristics are more or less sex-linked. Females have the highest incidence of dark coloration (belly band and broad tail band); in males the melanism is much more restricted.

14. Gyrfalcon (Falco rusticolus)

Three phases (white, gray and dark gray), strongly geographically oriented. The white morph is most common in the high arctic, especially in Greenland; dark-phase birds are typical of western Canada, but they also predominate in northern Labrador. Most of the Massachusetts records are of dark-morph birds, but several authors (e.g., Bailey [1], p. 77) have questioned the validity of these records. All three forms have been recorded.

15. American Kestrel (Falco sparverius)

Caribbean populations are polymorphic (white- vs. ferruginous-chested morphs). In the United States, only a single morph is present.

16. Ruffed Grouse (Bonasa umbellus)

Red-tailed and gray-tailed morphs, geographically oriented. (Cf. [16], pp. 52-53, for comments; [18], p. 85, for illustrations.)

17. Pomarine Jaeger (Stercorarius pomarinus)

Dark and light phases. Watson ([21], p. 43) estimates the ratio of these two morphs to be 1:8.

18. Parasitic Jaeger (Stercorarius parasiticus)

Dark and light phases. Griscom and Snyder ([7], p. 117) consider the dark phase to be "quite frequent." (Illustrations: [18], p. 131, [16], Pl. 4.)

19. Long-tailed Jaeger (Stercorarius longicaudus)

Dark and light phases, both extremely rare. One dark-phase specimen and 4 light-phase specimens were examined by Griscom and Snyder, who consider jaeger specimens representative of Massachusetts transient populations. ([7], p. 118)

20. Common Murre (Uria aalge)

There is an uncommon morph, sometimes called the "Ringed Murre," with a narrow white ring about the eye during the breeding season only. (Illustrated in [18], p.149.) In winter plumage, the entire face is white in both morphs. Almost all Massachusetts records are of winter birds.

21. Barn Owl (Tyto alba)

Two color phases: 1) white-breasted paler individuals, and 2) orange-breasted darker birds. Both morphs are common throughout North America. ([8], p. 140)

22. Screech Owl (Otus asio)

Two well-known morphs (gray and red) with intermediates (brown). In the West, there are two phases (gray and brown, no red), but these birds may well represent a distinct species. The gray allele is recessive (i.e., offspring of a gray pair will all be gray phase). ([18], p. 160; [16], Pl. 38).

23. Great Horned Owl (Bubo virginianus)

According to Grossman and Hamlet ([8], p. 422), there are two color phases, differing as follows:



<u>Character</u>	<u>Leucistic</u>	<u>Flavistic</u>
Facial disc	White to buff-yellow	Tawny
Tarsi and toes	White, sometimes mottled	Tawny
Tail	White to light ochre (barred)	Amber-brown (barred)
Throat locket	White	Tawny

24. Dark-eyed Junco (*Junco hyemalis*)

This is an extremely variable species, still under active investigation. As a result of the recent Check-list changes ([19], p. 418), the species now consists of 13 subspecies; it may soon be merged with the Gray-headed Junco (*J. caniceps*) to raise the total number of subspecies to 15. Many of these subspecies hybridize and intergrade with each other, creating an unusual amount of intraspecific variation. According to Mayr and Short ([14], p. 88), there is also polymorphism within the species, but I am unable to locate in the literature any statements identifying the exact nature of this polymorphism. The following statement from Bent [3] is suggestive and may refer, in fact, to this phenomenon:

Oregon Junco (*J. h. montanus*, *shufeldti* and *thurberi*): "White wing spotting is a rare variant." (p. 1059)

25. White-throated Sparrow (*Zonotrichia albicollis*)

Polymorphism in this species was only recently discovered. (Cf. Lowther, [10] and [11], not consulted by me.) As recounted in Bent ([4], pp. 1374-5, 1381-2, 1367), the two morphs are color variants differing in a variety of small ways from each other. The essential character distinguishing the two morphs is, however, the color of the median crown stripe in the adult bird, this stripe being either white or tan. White-striped adults are illustrated in [18], p. 320, and in [16], Pl. 58. Tan-striped adults cannot be distinguished from immatures of the first winter plumage. The songs of the two types are essentially identical, but the two morphs are behaviorally distinct with reference to the singing of this song.

In a nutshell, white-striped birds display a higher level of intraspecific aggression; and this is evidenced in two ways:

- 1) A white-striped female will respond to another singing bird by singing the territorial song herself. She "talks back," as it were. Tan-striped females do not sing in the field.
- 2) White-striped males are most hostile indeed toward any other bird singing the territorial song. In particular, they react aggressively towards singing white-striped females. Tan-striped males that have been sexually aroused by a female's trill-note do not respond to a subsequent delivery of the territorial song.

The two morphs occur in roughly equal proportions so that the result is a system of assortative mating between opposite morphs, which is unique among birds: white-striped males mate exclusively with tan-striped females, and white-striped females mate almost exclusively with tan-striped males. (A few excess pairs are formed with mates both of the same morph. Almost all of these are pairs of tan-striped birds.)

On the Reporting of Morphs

I can think of few arguments to support field identification of subspecies. In a few species, one or more subspecies will be well-marked, but the opposite is more often the case. For example, the races of the Dark-eyed Junco resemble each other so closely that it has been suggested that not even a bird-bander can classify an individual bird accurately. A correct subspecific determination can only be made for a non-fidgety, i.e., dead, bird.

How different the case of polymorphism! Morphs are, by definition, well-marked and easily categorized into one of a small number of dissimilar classes. They are easily identified in the field under suitable visual conditions by any competent and well-

informed observer. It would seem to be essential in the reporting of any polymorphic species that all individuals be identified as to type. When more than one morph is present, careful counts should be made of each form. Take a little extra time and observe the birds carefully. After all, we should be bird-watchers first and listers second. Are there any significant differences in behavior? any signs of intraspecific aggression? any differences in the food taken?

Remember, in no other science have amateurs played the major role that they have played in ornithology. The observations you make may well become the basis for a major new piece of research.

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#### TERN CATASTROPHE

by Wayne Hanley, M.A.S.

A sudden wave of death this summer wiped out almost all the young birds in a Common Tern colony on Jeremy's Point in Wellfleet. Dr. I. C. T. Nisbet, who heads field research into tern problems for the Massachusetts Audubon Society, witnessed the unexpected die off.

Dr. Nisbet said, "There were 1500 young terns in the colony. About 100 of them progressed to the point where they could fly. At about the same time, all other young in the colony just sat there on the beach and died.

"Death among young terns is not uncommon. But this is the first time we have witnessed such a die off without any clue as to why it happened. In years when fishing is poor, many young terns die because their parents cannot find enough food for them. But these young birds were fat. We have had pathological examinations made, and no disease was found. The pattern of death did not indicate chemical or pesticide poisoning. The whole thing still is a complete mystery."

There are four species of terns along the New England coast. Three species are doing very badly, while one has begun a slow comeback. Least Terns, the small terns with yellow bills and white foreheads, hit a low ebb about five years ago, but now are recovering. The Massachusetts population of Least Terns is estimated at about 1200 pairs.

Common Terns, which were estimated at 9000 pairs in Massachusetts five years ago, had declined to 6000 pairs this summer. Roseate Terns have dropped about 50% in five years and now are down to 2000 pairs. Part of their decline locally was caused by a major defection of Massachusetts birds to Long Island, N. Y., colonies.

Arctic Terns, which use Massachusetts as the southern rim of their breeding range, seem to be in the worst condition of all the terns here. Their population of 300 to 400 pairs five years ago now has dropped to 50 pairs. Dr. Nisbet said, "Most Arctic Terns along the Massachusetts coast now are old birds. Some are over 20 years old, according to their bands. They seem to lack the deep urge necessary to keep them feeding their young. Perhaps it is something akin to senility."

Part of the four species' difficulty comes from a lack of options. Given a choice, terns prefer to breed on offshore islands where ground predators are few. The recent population explosion among Herring Gulls and Great Black-backed Gulls has forced terns from most of the desirable islands. Gulls nest first and occupy all sites before the terns return from the south. Meanwhile coastal construction and hordes of bathers have evicted the terns from their only alternative breeding grounds, the mainland beaches.

#### NOUNS OF ASSEMBLAGE

The English language contains a rich variety of words known as nouns of assemblage or nouns of multitude. Each is a term to be used for a group of animals or humans, all of the same type. Some of these words are still in common use: we speak of a gaggle of geese, a kettle of hawks, of a clutch of eggs, or a raft of ducks (raft = a large and motley collection, as in the word ruffraff).

The heyday for the formation of these words seems to have been in the fifteenth century, and birds received their full share of attention. James Lipton has collected these terms and published them in his beautifully illustrated book, An Exaltation of Larks (Grossman Publishers, New York, 1968). He gives the following as authentic to the early period:

A siege of herons, a skein of geese (in flight), a gaggle of geese (on water), a spring of teal, a badling or a paddling of ducks (on water), a cast of hawks, a rafter of turkeys, an ostentation of peacocks, a covey of partridges, a nye or a bouquet of pheasants, a mustering of storks, a deceit of lapwings, a congregation of plovers, a fall of woodcock, a walk or a wisp of snipe, a pitying of turtledoves, a dule of doves (from the French deuil = mourning), a parliament of owls, a descent of woodpeckers, an exaltation of larks, a flight of swallows, a tidings of magpies, an unkindness of ravens, a murder of crows, a building of rooks, a watch of nightingales, a murmuration of starlings, a charm of finches, a host of sparrows---all of which together would certainly form a dissimulation of birds.

Lipton adds two more examples in his chapter on the more modern formations: a gulp of cormorants and a stand of flamingoes. But this is a game we can all play! I'll start by contributing nine more: a plunge of gannets, a sneeze of flycatchers, a blaze of tanagers, a storm of snow buntings, a quagmire of bitterns, a dump of gulls, a rain of migrants, a complaint of catbirds, and a confusion of warblers. Now let us have your contributions.

J.T.L.

#### MARbled MURRELET NEST FOUND

On August 8, 1974, a tree trimmer at Big Basin State Park, Santa Cruz, California, solved the mystery of the nesting location of the Marbled Murrelet in the Western Hemisphere, a secret that has eluded ornithologists for more than 100 years. The trimmer, Hoyt Foster, discovered the nest 145 feet high in a redwood tree, while he was lopping a branch that threatened to fall on a campsite. He found the fluffy chick sitting on a nest of sparse moss. He brought the chick, as well as the nest, to the local Fish and Game office. Unfortunately, the chick died, possibly because it was given the wrong food.

The Marbled Murrelet was the last of those bird species breeding regularly in North America whose nest had not been found on this continent. The species is nocturnal in its passage to and from the nest site, making it impossible to follow its flights directly inland from the Pacific Ocean to the nest. Nevertheless, the evidence for the tree nesting of the species was extensive. The first hint came in 1898 when Indians of the Prince of Wales Archipelago reported to Cantwell that the species nests in hollow trees high up in the mountains. In 1953, W. Feyer and another man felled a large hemlock in the Queen Charlotte Islands; from the debris they removed a dazed Marbled Murrelet and some eggshells that contained blood. Unfortunately, it was impossible to determine whether the nest site was actually in the tree or simply in its path as it fell. In 1961 in Russia Kuzyakin found a nest of the race Brachyramphus marmoratus perdix in a taiga larch tree about 20 feet above the ground. The tree was located some 4 miles in from the sea. The search for the Marbled Murrelet's nest was further publicized in Audubon Field Notes 24:654, with a \$100 reward being announced for the first description with photographs. Congratulations to Mr. Foster!

R.H.S. and J.T.L.



THE SANDHILL CRANE  
ON CAPE COD (HARWICH)

Photo by Dr. Herbert Whitlock  
of Eastham

GREAT HORNED OWLS

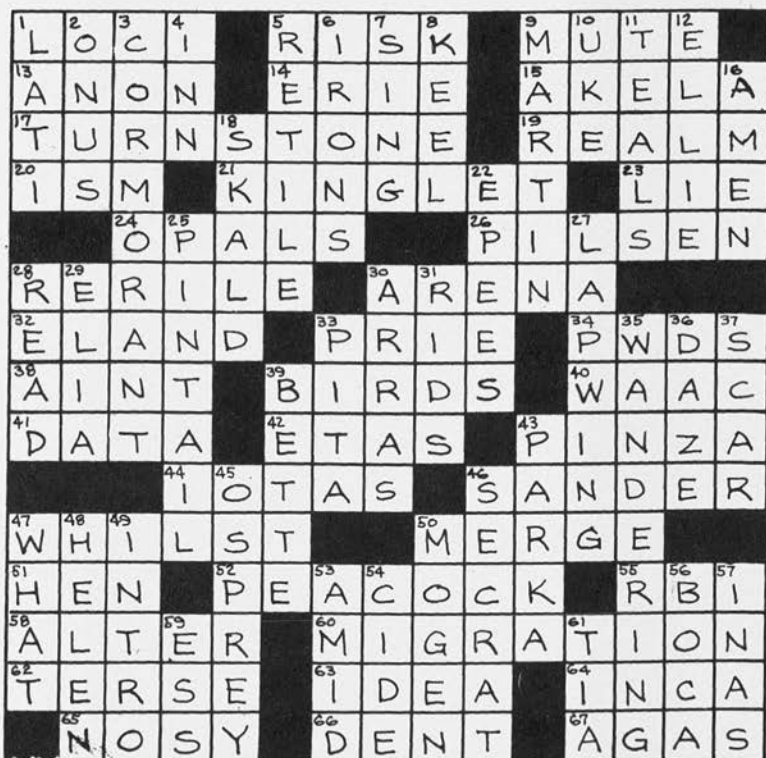
by Wayne Hanley, M.A.S.

The best way to find a Great Horned Owl consists of looking at the ground, rather than scanning the tree limbs above. This is because Great Horned Owls, like most other raptors, cough up pellets, which are neat packages of felt wrapped tightly around a few mouse bones and a mouse skull or two. The owl swallows mice whole; its stomach digests the mouse's meat, rejects the fur and bones, and creates the pellet.

Normally, a Great Horned Owl produces a pellet a day. Captive owls usually cough up the pellet about eight hours after eating. Since Great Horned Owls seem to eject the pellet before leaving the roost, one can detect the presence of the roost by the scattering of pellets under a tree. The technique of searching for pellets is not entirely reliable when one searches for an owl nest. While incubating, the female owl does not eject pellets at the nest site itself. One may find the vicinity of the nest, however, by locating the roost of the male owl, who remains close while the female is on the nest. The male ejects pellets at his roost even during the nesting season.

The Great Horned Owl lays its eggs in an old nest of a large hawk, rather than nesting in holes, as many smaller owls do. Great Horneds never add any material to the nest, nor apparently alter it in any way. The birds seem to prefer nests in coniferous trees, if these are available.

Searching for a Great Horned Owl's nest is a perilous occupation. The male remains on guard and does not hesitate to attack anything, including a human, that approaches the nest area. These are powerful birds, armed with huge talons that can rip a human scalp with the efficiency of a surgeon's knife. One does not have to be that near to the nest to be attacked; it is sufficient to have entered the territory that the male is defending.



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Plate by John Henry Dick from  
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(Actual plate is in full color.)

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## SOME COMMENTS ON IDENTIFYING JAEGERS

by Thomas H. Davis, Woodhaven N. Y.

For reasons not yet clear, Cox's Ledge, located 40 miles ESE of Montauk Point, N.Y., is a very productive place to see jaegers from mid to late September (and later?). Some counts obtained here during this period have been 16 (9-23-72), 17 (9-22-73), 34 (9-11-71), and 50 (9-16-73). Pomarine Jaegers outnumber Parasitics by over 2 to 1 at the Ledge, although Parasitic is the predominant species by far along Long Island beaches at this season.

A comprehensive report on all Cox's Ledge observations is planned for future publication. What I aim to note here are a few comments on jaeger identification, based on the large series of individuals I have seen at Cox's Ledge. These comments are meant to amplify statements contained in current popular field guides.

The length and appearance of the extended rectrices of adult Pomarine Jaegers: birds figured in the Peterson and Robbin's field guides appear to measure about 2-3 inches in this respect. However, lengths of 5-6 inches (or longer?) are not at all uncommon. Also, the twist of these feathers is not always apparent, giving the appearance of long, thin tail streamers. When, with a group of experienced birders, I first noted one of these extreme individuals, we were nearly duped into thinking it a Long-tailed, notwithstanding any size or flight differences between these two species.

The amount of white in the primaries: Pomarine and Parasitic Jaegers in all plumages show a large flash of grayish white in the primaries seen from below. From above, the amount of white seen is highly indicative of the species. On the average, 5 primary shafts are white in Parasitics, and about 9 in Pominines.\* Thus, Parasitic Jaegers show a small white flash at close distances, while the Pomarine's larger amount of white is perceptible at much greater distances. Extreme amounts of white showing in the wings of several dark-phased Pominines gave them a decidedly Skua-like appearance. For example, an individual studied on September 23, 1972 with Peter Alden, Michel Kleinbaum, Benjamin and Joanne Trimble, et al., was seen harassing some gulls at a distance of about 100 yards. The almost solid core of white on the upper primaries contrasting with the dark plumage, plus the lack of extended rectrices puzzled us greatly. What convinced us that it was merely a Pomarine Jaeger was the comparison of its body size to the Herring Gull it chased.

It is quite clear to me that familiarity with jaegers comes only from constant experience seeing them. Great care should be exercised when considering the identity of any Stercorariid as Long-tailed Jaeger or Skua, two extremely rare birds in our region.

\* The Peterson Field Guides show the average amount of white in the wings quite accurately. Eckelberry's drawings in the Audubon Water Bird Guide are not only accurate, but also show a wider spectrum of plumages. All of Singer's jaegers in Robbin's Birds of North America are shown with far too much white in their wings.

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### NEW WORLD VULTURES

The vultures of the New World are only distantly related to the other Falconiformes (kites, hawks, eagles, falcons, etc.) and different from them in many ways:

The hind toe is non-functional, quite small, and elevated on the leg above the level of the other toes. The trachea is unspecialized and lacks a syrinx, so that the vulture is necessarily voiceless, except for grunting or hissing noises. The olfactory chamber is large, and indeed certain species have a keen sense of smell, which assists them in locating carrion. Sexes are similar in size, or else the male is larger. (Among most hawks, particularly the more aggressive species, the female is the larger bird.)

Hawks are, in general, solitary by nature, but vultures are quite social. Vultures build no nest, and they feed their young by regurgitation. When asleep, vultures squat like chickens, resting the breast on the feet. They seldom hide the head in the scapulars, although they may pull it back into the neck ruff while sleeping.

J.T.L.



THE BIRD OBSERVER SUMMARY FOR JULY 1974

This was the driest July that eastern Massachusetts had experienced since 1968; the only rainfall during the month occurred in the form of scattered and infrequent thunderstorms. Many farmers faced problems with drought. During the first part of the month, temperatures averaged 3° above normal, then dropped to 4° below average during the latter two weeks.

It was during this month that Cattle Egret and Glossy Ibis, two species which occurred with increasing frequency in the state over the last few years, were found breeding on two coastal islands among other nesting herons. These two islands were Clark's Island in Duxbury Bay and House Island, off Manchester. (Cattle Egret proved to nest at Manchester only.) The discovery of each of these species constitutes first breeding records for the state, although Glossy Ibis had been found nesting previously to the north of here, at Appledore Island, Maine.

Virtually all of the regular shorebird migrant species arrived by mid-month, the most noteworthy being 3 Curlew Sandpipers, 2 Marbled Godwits, a Golden Plover, 1 Wilson's Phalarope, and the repeated early arrival of Long-billed Dowitchers by the 22nd of the month.

The outstanding varieties reported during July included 13 Fulvous Tree Ducks, a Sandhill Crane, a Sooty Tern and a White-winged Dove.

In addition, a Lesser Black-backed Gull, an adult of the race L. f. graellsii, made an appearance for the third year in a row at Eastham. Could this be the same bird returning? Or is this bird actually more regular in occurrence on the Massachusetts coast than records would indicate? Hopefully, all winter gull populations will be scrutinized this winter in search of this species.

R. R. V..

Common Loon:		
16	Marion	3 G.Mock
Pied-billed Grebe:		
15	P.I.	8 BBC(G.Soucy)
Sooty Shearwater:		
20	Gloucester(E.P.)	1 L.Robinson
<u>Manx Shearwater:</u>		
13	Barnstable(S.N.)	1 H.D'Entremont
Wilson's Storm-Petrel:		
20,28	Gloucester(E.P.), Monomoy	<u>200+</u> , 5 L.Robinson#, W.W.Harrington#
Double-crested Cormorant:		
25	Clinton	7 B.Blodget
Green Heron:		
27	Hatfield	7 M.Yenlin
<u>Little Blue Heron:</u>		
13 on	Duxbury Bay(Clark's Is.)	5 prs., 10+ imm. W.Petersen#
18 on	off Manchester(House Is.)	2-4 prs. C.Leahy#
27	Chappaquidick Is.(M.V.)	1 E.M.Sears
29	S.Dartmouth	2 imm. P.Regan
<u>Cattle Egret: (First Nesting Record for State)</u>		
13 on	Duxbury Bay(Clark's Is.)	1 ad. W.Petersen, K.Anderson, B.Harrington
18 on	off Manchester(House Is.)	2-4 prs. C.Leahy#
21	Essex	4-5 P.Parsons
Great Egret:		
thr.	6 localities	8 individuals v.o.
13 on	Duxbury Bay(Clark's Is.)	1-2 prs., 2 imm. W.Petersen#
Snowy Egret:		
13	Duxbury Bay(Clark's Is.)	30+ prs. W.Petersen#
14	P.I.	62 ad. R.Forster#
18	off Manchester(House Is.)	60 prs. C.Leahy#
Louisiana Heron:		
23-24	Monomoy	1 P.Bailey & A.Palmer
Black-crowned Night Heron:		
thr.	Nantucket	250+ prs. R.Veit#
13 on	Duxbury Bay(Clark's Is.)	20+ imm. W.Petersen#
18 on	off Manchester(House Is.)	45+ prs. C.Leahy#

<b>Yellow-crowned Night Heron:</b>			
5,14,26	P.I., Cambridge, Dennis	1 imm., 2 ad., 1 imm.	S&J Harrison, R. Stymeist, D. Baines
<b>Least Bittern:</b>			
thr., 4	P.I., Marshfield	max. 5 (July 20), 1 f.	v.o., W. Petersen#
<b>American Bittern:</b>			
15, 21	P.I., Newburyport	1, 1	BBC (G. Soucy), W. Petersen#
27	Brookfield, Hatfield	2, 1	B. Blodget, M. Yenlin
<b>Glossy Ibis: (First Nesting Record for State)</b>			
13 on	Duxbury Bay (Clark's Is.)	4-6 probable prs.	with 15 young W. Petersen#, K. Anderson#
18 on	off Manchester (House Is.)	2-4 prs.	C. Leahy#
<b>Brant:</b>			
thr.	Wellfleet	8	v.o.
<b>Black Duck:</b>			
25	Clinton	249	B. Blodget
<b>Gadwall:</b>			
5	Concord (GMNWR)	3 ad., 6 imm.	M. Bates
14, 15	P.I.	6 families, 130	W. Petersen, G. Soucy
<b>Green-winged Teal:</b>			
18; 20	Buzzard's Bay; P.I.	2 ad., 4 imm.; 8-10	M. B. O.; W. Petersen#
<b>Blue-winged Teal:</b>			
20	P.I.	3	W. Petersen#
<b>American Wigeon:</b>			
15-20	P.I.	3	v.o.
<b>Wood Duck:</b>			
20	P.I., Harwich	10, 40	W. Petersen#, B. Nikula
<b>Ring-necked Duck:</b>			
7	Brookline	1	A. Agush
<b>Greater Scaup:</b>			
7	Newburyport	1	W. Petersen#
<b>Common Goldeneye:</b>			
5-21	Newburyport	1 m., 1 f.	v.o.
<b>Harlequin Duck:</b>			
9 on	Plymouth (Edison site)	1 imm. m.	B. Sorrie#
<b>King Eider:</b>			
25-31	Nauset	1 f.	v.o.
<b>Surf Scoter:</b>			
21	Marion	1 m.	G. Mock
<b>Ruddy Duck:</b>			
20	P.I.	4 m., 1 f., 5 imm.	W. Petersen#
<b>Fulvous Tree Duck:</b>			
3	Edgartown (M.V.)	10	G. Ben David & v.o.
21-31	Rowley	3	W. Petersen, R. Forster & v.o.
<b>Cooper's Hawk: (no details submitted)</b>			
12	Marshfield	1	A. Richardson
<b>Broad-winged Hawk:</b>			
thr.	5 localities	singles	v.o.
<b>Bald Eagle:</b>			
13-23	Monomoy	1 ad.	W. Bailey#
<b>Marsh Hawk:</b>			
thr.	Nantucket	12+ prs.	R. Veit#
<b>Osprey:</b>			
5, 8	Harwich, Katama (M.V.)	1, 1	R. Pease, D. Grimes#
11-14	Concord (GMNWR)	1	V. Albee#
<b>Ruffed Grouse:</b>			
25	Marshfield	1 with 4 yg.	A. Richardson#
<b>Sharp-tailed Grouse:</b>			
thr.	Tuckernuck Is.	1 pr., 1 yg.	R. Veit
<b>Sandhill Crane:</b>			
24-30	W. Harwich	1 (photographed)	H. Smith & v.o.
<b>King Rail:</b>			
1, 14	P.I., Milton (F.M.)	1, 1	J. Clancy
<b>Clapper Rail:</b>			
thr.; 15-27	Nantucket; S. Dartmouth	1 ad. with 3 yg., 2	R. Veit, E. Andrews; P. Regan
<b>Common Gallinule:</b>			
21	Concord (GMNWR)	12 (2 f., 10 yg.)	BBC (E. Taylor)

American Oystercatcher:			
thr.	Monomoy, Nantucket Islands	9,13	v.o., R.Veit & v.o.
Semipalmated Plover:			
20,27	P.I., Barnstable(S.N.)	35+,80	W.Petersen#
Piping Plover:			
13	Monomoy	25	BBC(R.Stymeist)
Killdeer:			
12,25	Rowley, Clinton	12,12	R.Emery#, B.Blodget
Golden Plover:			
14-20	Plymouth Beach	1	M.B.O.Staff
Black-bellied Plover:			
1	Monomoy	600	B.Nikula
Ruddy Turnstone:			
20	Plymouth	6	F.Hammond
Whimbrel:			
early July	S.Wellfleet(WBWS)	20	V.Laux
20	Nantucket Sound	23	R.Veit
Upland Sandpiper:			
thr.	Newburyport	6	v.o.
Spotted Sandpiper:			
17,19	Westwood, Quansoo(M.V.)	1 yg.,13	J.Clancy, fide S.Whiting
Solitary Sandpiper:			
15,21	Katama(M.V.), W.Newbury	1,2	E.Chalif, W.Petersen#
Willet:			
6,15	Monomoy, Manomet	6,1	J.Harris#, M.B.O.Staff
Greater Yellowlegs:			
7,14	P.I., Newburyport	3,12	W.Petersen#
Lesser Yellowlegs:			
7,14;28	Newburyport	37,200;600+	W.Petersen#; R.Forster#
Red Knot:			
13,20,24	Monomoy, P.I., Scituate	45,34,3000+	R.Stymeist, W.Petersen#, C.Clark#
White-rumped Sandpiper:			
13,22	Monomoy, P.I.	2,2	R.Stymeist, W.Drummond
Least Sandpiper:			
7,21	Newburyport, Concord	40,50	E.Taylor
Curlew Sandpiper:			
5,27	Nauset, Monomoy	1,1	V.Laux#, N.Hill
11-16	Plymouth Beach	1 (breeding plumage)	B.Sorrie#
Dunlin:			
13	Monomoy	1	C.Bauer, R.Stymeist
Short-billed Dowitcher:			
7,14,21	Newburyport	180,450,600+	W.Petersen#
13	Monomoy	250	R.Stymeist
Long-billed Dowitcher:			
20-28,22-23	P.I., S.Wellfleet(WBWS)	2,1	R.Forster#, B.Nikula#
Stilt Sandpiper:			
14,28;30	P.I.; Monomoy	2,24;78	R.Forster#; W.Harrington#
Semipalmated Sandpiper:			
21,28;24	Newburyport; Scituate	12,000+, 8000;5000	W.Petersen#, R.Forster#; C.Clark
Western Sandpiper:			
15,16,22-23	Katama(M.V.), Plymouth, P.I.	1,1,1	E.Chalif#, R.Dwellely, P.Butler#
Marbled Godwit:			
29-31	Monomoy	2	W.Harrington#
Hudsonian Godwit:			
2 on	Monomoy	max.77(July 23)	v.o.
7 on	Newburyport	max.42(July 21)	v.o.
Ruff:			
3-13,21	Monomoy, Newburyport	1 m.,1	R.Stymeist & v.o., R.Forster#
Wilson's Phalarope:			
20	Essex	1	P.Parsons
Parasitic Jaeger:			
3-28	4 localities	5 individuals	v.o.
Glaucous Gull:			
7&14	Newburyport	1 2nd year bird	R.Forster#
Lesser Black-backed Gull:			
31	Nauset(Coast Guard Beach)	1 ad.	J.Harris#
Ring-billed Gull:			
7	Newburyport	225	W.Petersen#

Black-headed Gull:			
14-28	Newburyport	1 sub-ad.	v.o.
Laughing Gull:			
13	Monomoy	30	R.Stymeist#
Bonaparte's Gull:			
7-23	Newburyport	300	W.Petersen# & v.o.
Little Gull:			
14-31	Newburyport	1 sub-ad.	R.Forster,R.Emery#
Gull-billed Tern:			
1	Nauset	1	B.Nikula
early July	S.Wellfleet (WBWS)	1	V.Laux
Forster's Tern:			
17,21	Newburyport,P.I.	1,1	M.Gardler,N.Claflin
Arctic Tern:			
20	Nauset,Plymouth	4,2	B.Blodget,F.Hammond
Roseate Tern:			
13,20	Monomoy,P.I.	18,3	BBC(R.Stymeist),W.Petersen
Sooty Tern:			
early July	Nauset(Coast Guard Beach)	1	I.Nisbet
Least Tern:			
20	P.I.,Plymouth	15 prs.,6	W.Petersen#,F.Hammond
Royal Tern:			
3-13,7	Chatham(North Beach),Monomoy	1,1	v.o.,W.Bailey & v.o.
3-28	Nauset(Coast Guard Beach)	max.3	B.Nikula# & v.o.
7	Tuckernuck Is.	1	R.Veit#
Caspian Tern: (no details received)			
5,24	P.I.,Scituate	1,1	S&J Harrison,C.Clark
Black Tern:			
1,6&13	Nauset,Monomoy	1,1&1	B.Nikula,J.Harris#&BBC(R.Stymeist)
5,11&16	P.I.,Plymouth	1,1	S&J Harrison,M.B.O.Staff
Black Skimmer:			
10-28	Nauset(Coast Guard Beach)	1-3	v.o.
13&28	Monomoy	1	BBC(R.Stymeist)&W.W.Harrington
White-winged Dove:			
4	S.Wellfleet(WBWS)	1	V.Laux
Yellow-billed Cuckoo:			
thr.	11 localities	19 individuals	v.o.
Black-billed Cuckoo:			
thr.	8 localities	11 individuals	v.o.
Barn Owl:			
thr.	N. Sandwich 2 ad.,1 yg.(b),2 dead yg.& 1 live yg.		M.B.O.Staff
thr.	Chilmark,W.Tisbury(M.V.)	3 prs.,2	R.Beauregard,A.Woodruff
thr.	Vineyard Haven (M.V.)	2,3 yg.	B.Wong,A.Fischer
Screech Owl:			
1-15	4 localities	6 individuals	v.o.
Great Horned Owl:			
14	Manomet	1 "rare here"	M.B.O.Staff
Barred Owl:			
20-21	Holden	1	B.Blodget
Short-eared Owl:			
6&13	Monomoy	1,1	J.Harris#,BBC(R.Stymeist)
16	Nantucket	23(total?)	N.Claflin
Saw-whet Owl:			
5,8	Scituate,W.Newbury	1 imm.;1	fide B.Litchfield,M.Poore
Chuck-will's-widow:			
thr.	Nantucket,Polpis	1	S.Perkins,R.Veit et al
Common Nighthawk:			
thr.;21	Cambridge;Concord(GMNWR)	4 prs.,2 yg.;1	R.Stymeist;BBC(E.Taylor)
Pileated Woodpecker:			
14,21	Hingham,Weston	1,1	S.Higginbotham#,L.Robinson
Red-headed Woodpecker:			
1	Weston	1	Mounts
Eastern Kingbird:			
22	P.I.	10	BBC(W.Drummond)
Alder Flycatcher:			
27	Brookfield	4+	B.Blodget#
Bank Swallow:			
thr.	Rowley	200 prs.	M&A Argue# & v.o.

Rough-winged Swallow:			
4	Duxbury	1	W.Petersen#
Cliff Swallow:			
20,21 on	Wellfleet, Newburyport	1,1 pr.	B.Blodget, W.Petersen# & v.o.
<u>Fish Crow:</u>			
29	Roslindale	2 ad. & 2 yg.	D.Brown
Winter Wren:			
13,17&18	Boxford, Weston	1,1	V.Albee, L.Robinson
Carolina Wren:			
thr.	8 localities	10 individuals	v.o.
Long-billed Marsh Wren:			
4,15	Brookfield, P.I.	2,20	D.Crompton, BBC(G.Soucy)
21	Concord	15	BBC(E.Taylor)
American Robin:			
27	S.Dartmouth	50-60	P.Regan
Hermit Thrush:			
thr.,4	Westwood, Sherborn	10-3	J.Clancy, BBC(E.Taylor)
Eastern Bluebird:			
thr.	6 localities	10 individuals	v.o.
Blue-gray Gnatcatcher:			
27	Plymouth	1	F.Hammond
Loggerhead Shrike:			
27	Plymouth	1	R.Stymeist
White-eyed Vireo:			
thr.	Ipswich(Crane's Beach), Manomet	1,1(b)	J.Berry, M.B.O.Staff
4	Marshfield, Fairhaven	1,2	W.Petersen#, G.Mock
Yellow-throated Vireo:			
7	Boxford	1	W.Petersen#
Blue-winged Warbler:			
July	Manomet	2(b)	M.B.O.Staff
20	Barnstable	1	J.Clancy
Blackburnian Warbler:			
7,13	Boxford(Crooked Pond)	1,2	W.Petersen#, V.Albee#
<u>Blackpoll Warbler:</u>			
17	P.I.	1 singing	M.Baird#
Northern Waterthrush:			
18	Norwell	1	W.Petersen#
Louisiana Waterthrush:			
7	Boxford	1	W.Petersen#
Bobolink:			
28	Ipswich	175+	J.Berry
Orchard Oriole:			
4,7	Marshfield, Wellesley	2,2	W.Petersen#
Cardinal:			
thr.	Annisquam	7 prs.	H.Wiggin
House Finch:			
13,20;26	P.I.; Baldwinville	1 m. & 1 f., 2; 1 pr.	R.Emery#, W.Petersen#; J.O'Regan
<u>Pine Siskin:</u>			
24	Plymouth	1(feeder)	C.Youngstrom
<u>Henslow's Sparrow:</u>			
thr.	Newburyport	2 singing(from May)	v.o.
Vesper Sparrow:			
early July	Manomet	3 m.singing	v.o.
<u>Dark-eyed Junco:</u>			
12-25	Marshfield	2"carrying food"	A.Richardson
<u>White-crowned Sparrow:</u>			
13	P.I., Weston	1 ad., 1 ad.	R.Emery#, L.Robinson#
White-throated Sparrow:			
4,17-18	Cambridge(Mt.A.), Weston	2,1 with food	R.Stymeist, L.Robinson
28	Annisquam	nested successfully	H.Wiggin
Swamp Sparrow:			
27	Brookfield	21	B.Blodget

THE BIRD OBSERVER SUMMARY FOR AUGUST 1974

August temperatures were near normal, and precipitation continued sparse and spotty at the beginning of the month. However, at mid-month significant rainfall brought a temporary relief to New England's severe drought. Showers and thunderstorms on the 19th, 23rd and 24th brought the monthly rainfall total to near normal.

Shearwater and petrel reports were low, but it is difficult to determine whether this is a true indication of their numbers, or whether it is due to poor coverage or they passed by unobserved. Herons were reported in average numbers, with a big drop in the number of Snowies as compared with 250 at Plum Island last year.

Waterfowl were at a seasonal low ebb, but a few noteworthy reports include 3 Fulvous Tree Ducks continuing from July in Rowley; a Harlequin Duck remained all month at the Edison site in Plymouth, and the female King Eider continued in the Nauset-Orleans area. A Turkey Vulture and a Rough-legged Hawk on Martha's Vineyard highlighted the raptor reports, and Peregrine Falcons and Merlins were earlier than usual. The Sandhill Crane continued through the 26th at West Harwich and was found on Monomoy at the end of the month.

There were good numbers of shorebirds reported, as would be expected during the peak of shorebird migration. Peak counts include the following: Black-bellied Plover - 2000, Red Knot - 1500, White-rumped Sandpiper - 50+, Long-billed Dowitcher - 16, Hudsonian Godwit - 132. In addition, there were 11 Baird's Sandpipers, a Curlew Sandpiper, 14 Buff-breasted Sandpipers, 5 Marbled Godwits, 3 Ruffs, 5 Wilson's Phalaropes and an American Avocet reported.

There was a poor jaeger flight, yet 1 Long-tailed Jaeger and a Northern Skua were reported. Two Lesser Black-backed Gulls were present again this summer on Coast Guard Beach, Nauset. An adult Sabine's Gull was reported during the greater part of August at high tide on Monomoy. Roseate Tern reports have increased this year; note especially the high count at Muskeget-Tuckernuck Islands.

Barn Owls continued at Sandwich and Martha's Vineyard, and the Chuck-will's-widows were still present on Nantucket and the Vineyard. Warblers were migrating with 20 species reported, and 3 Yellow-headed Blackbirds were noted in scattered localities. The Henslow's Sparrows remained at Newburyport until the field was mowed; 3 Lark Sparrows were noted; and an early Lincoln's Sparrow was found on Chilmark, Martha's Vineyard on the 12th.

R.H.S.

Pied-billed Grebe:			
31	P.I.	10	BBC(H.Weissberg)
Greater Shearwater:			
10,11	off P.I., Monomoy	10,1 dead	BBC(G.Soucy), F.Gardner#
Sooty Shearwater:			
early Aug.	Edgartown(M.V.)	1 oiled	G.Ben David
<u>Leach's Storm-Petrel:</u> (No Details)			
10	off P.I.	2	E.Treacy, BBC(G.Soucy)
<u>Wilson's Storm-Petrel:</u>			
10	off P.I.	500+	BBC(G.Soucy)
Double-crested Cormorant:			
25	P.I.	150 migrants	W.Petersen, R.Forster
Great Blue Heron:			
24	Concord(GMNWR)	20	E.Taylor, L.Robinson
Little Blue Heron:			
thr.	8 localities	12 individuals	v.o.
Cattle Egret:			
22,30	Dartmouth, Ipswich	3,22	H.D'Entremont#, E.Taylor
29,31	Newbury, Essex	1,17	H.D'Entremont#, BBC(H.Weissberg)
Great Egret:			
thr.	12 localities	34 individuals	v.o.
Snowy Egret:			
4,12,31	Rowley, P.I., Barnstable	45,42,72	R.Forster, BBC(G.Soucy), R.Pease
<u>Louisiana Heron:</u>			
6,19	Monomoy, Chappaquidick Is.	1,1	P.Bailey#, E.Chalif#
Black-crowned Night Heron:			
10	Concord(GMNWR)	42	H.Merriman

Yellow-crowned Night Heron:			
thr.	Centerville, Monomoy	2 ad., 2(1 ad., 1 imm.)	V. Laux# & v.o., v.o.
10, 18	Tuckernuck Is., Nauset	1 imm., 3 imm.	R. Veit, B. Nikula
American Bittern:			
thr.	7 localities	12 individuals	v.o.
Glossy Ibis:			
thr.	8 localities	47 individuals	v.o.
Brant:			
thr.	S. Wellfleet (WBWS)	8	v.o.
<u>Fulvous Tree Duck:</u>			
1-5	Rowley	3 (from July)	v.o.
Mallard:			
2	Clinton	220	B. Blodget
Black Duck:			
2, 8	Clinton	357, 496	B. Blodget
Gadwall:			
31	P. I.	12	BBC (H. Weissberg)
Pintail:			
9	P. I.	6	R. Forster
Blue-winged Teal:			
31	P. I.	37	BBC (H. Weissberg)
Northern Shoveler:			
25	P. I.	16	W. Petersen, R. Forster
Wood Duck:			
12	P. I., Weston	15, 13	BBC (G. Soucy), L. Robinson
<u>Harlequin Duck:</u>			
thr.	Plymouth	1	B. Sorrie & v.o.
<u>King Eider:</u>			
thr., 11	Nauset, Monomoy	1, 1	v.o.
White-winged Scoter:			
31	S. Chatham	40	W. Petersen, R. Forster
Ruddy Duck:			
24	P. I.	10	BBC (N. King)
Hooded Merganser:			
2	Princeton (Wachusett)	1	B. Blodget
Turkey Vulture:			
3	Medway	1	R. Forster
Sharp-shinned Hawk:			
15&23	Manomet	1	M. B. O. Staff
Red-tailed Hawk:			
thr.	7 localities	8 individuals	v.o.
Black-bellied Plover:			
3, 17	Monomoy	500, 750+	BBC (H. D'Entremont), BBC (R. Stymeist)
24, 31	Newburyport	600, 2000	R. Stymeist#, BBC (H. Weissberg)
Ruddy Turnstone:			
4, 12, 27	P. I.	65, 25, 50+	R. Forster, BBC (G. Soucy), G. Soucy#
6, 8	Monomoy, Scituate	40, 100	D&V Crompton
American Woodcock:			
29	Winchester	1	P. Donahue
Common Snipe:			
18, 19	Lakeville, Chappaquidick Is.	7, 1	B. Sorrie, E. Chalif#
31	Harwich	1	W. Petersen#
Whimbrel:			
1-13	Monomoy	8-10	BBC (H. D'Entremont) & v.o.
9	Newburyport	12	R. Forster#
Upland Sandpiper:			
25, 31	Newburyport	4, 3	W. Petersen#, BBC (H. Weissberg)
Spotted Sandpiper:			
thr.	4 localities	7 individuals	v.o.
Solitary Sandpiper:			
thr.	7 localities	23 individuals	v.o.
Willet:			
17, 18	Monomoy, Scituate	3, 3	BBC (R. Stymeist), N. Osborne#
23	Chatham, Wellfleet	2, 3	H. Merriman
Greater Yellowlegs:			
3, 5	Monomoy, P. I. - Newburyport	100, 350	BBC (H. D'Entremont), BBC (E. Pyburn)



<b>Lesser Yellowlegs:</b>			
5,25	Newburyport	50,550	BBC (E. Pyburn), W. Petersen#
8,22	Clinton	26,21	B. Blodgett
<b>Red Knot:</b>			
8,12	Scituate, Eastham (Nauset)	1500,300	D&V Crompton, R. Forster#
12,23	P. I.	30,15	BBC (G. Soucy), H. Wiggan#
<b>Pectoral Sandpiper:</b>			
4,25	P. I.	4,40	R. Forster, W. Petersen#
10,25,28	Concord (GMNWR)	12,10,12	H. Merriman, L. Robinson, R. Emery#
10-31	7 localities	14 individuals	v. o.
<b>White-rumped Sandpiper:</b>			
9,25	P. I. (south end)	10,50+	R. Forster#, W. Petersen#
11-31	7 localities	21 individuals	v. o.
25,28	Boston, Concord (GMNWR)	2,2	A. Agush, R. Emery#
<b>Baird's Sandpiper:</b>			
10-31,18	Monomoy, Lakeville	5+,2	J. Harris# & v. o., B. Sorrie#
25&27,27	Boston, Concord (GMNWR)	1&2,1	A. Agush & M&A Argue, L. Robinson#
<b>Least Sandpiper:</b>			
3,5	Monomoy, Worcester	100,32	BBC (H. D'Entremont), B. Blodgett
12	P. I.	50	BBC (G. Soucy)
<b>Curlew Sandpiper:</b>			
1-13	Newburyport	1 (changing plumage)	D. Alexander# & v. o.
<b>Dunlin:</b>			
15,25	Eastham, Boston	1,2	R. Forster, A. Agush
<b>Short-billed Dowitcher:</b>			
3	Monomoy	50	BBC (H. D'Entremont)
5,24,31	P. I.	250,25,80	BBC (E. Pyburn, H. Weissberg)
<b>Long-billed Dowitcher:</b>			
4,25;8	P. I.; Monomoy	3,16;1	R. Forster, W. Petersen#; J. Harris#
<b>Stilt Sandpiper:</b>			
2,4,10	P. I.	33,81,7	M&A Argue#, R. Forster, J. Berry
17,31	Chappaquidick (M. V.), Harwich	1,4	E. Chalif#, W. Petersen#
<b>Semipalmated Sandpiper:</b>			
3,8	Monomoy, Scituate	1000,2000	BBC (H. D'Entremont), D. Crompton
12	P. I.	1000+	BBC (G. Soucy)
<b>Western Sandpiper:</b>			
25,28,31	Boston, Concord, Eastham	4,2,25	A. Agush, W. Petersen#, W. Petersen
<b>Buff-breasted Sandpiper:</b>			
25-29,29	Monomoy, Eastham	max. 5,4	J. Harris# & v. o., V. Laux# & v. o.
31	Newburyport, Edgartown (M. V.)	1,4	R. Emery#, M. Hancock
<b>Marbled Godwit:</b>			
1-8;6,8,15	Monomoy; Eastham	2;1	v. o.; fide B. Nikula
23-31	P. I.	2	A. Horn# & v. o.
<b>Hudsonian Godwit:</b>			
thr.	Monomoy	max. 132 (Aug. 4)	v. o.
thr.	Newburyport	max. 69 (Aug. 9)	v. o.
20,30	Tuckernuck Is., Eastham	32,31	R. Veit, C. Goodrich#
<b>Ruff/Reeve:</b>			
4,8,28	P. I., Monomoy, Newburyport	1,1,1	R. Forster, W. Bailey#, A&M Argue
<b>Sanderling:</b>			
3	Monomoy	1000	BBC (H. D'Entremont)
<b>American Avocet:</b>			
18-20	Dartmouth (Barney's Joy)	1	F. Symonds# & v. o.
<b>Red Phalarope:</b>			
18,30	off Chatham, Eastham	7,2	W. Harrington#, V. Laux#
<b>Wilson's Phalarope:</b>			
8-31,14-27	Monomoy, P. I.	2,1	fide B. Nikula, M. McClellan & v. o.
15,25	S. Wellfleet, Rowley	1,1	R. Forster, W. Petersen#
<b>Northern Phalarope:</b>			
10,18	off P. I., off Chatham	150,50	BBC (L. Jodrey), W. Harrington#
17&30	Monomoy	1 (in dunes), 25	BBC (R. Stymeist), W. Harrington
25-28	Concord (GMNWR)	1	E. Taylor# & v. o.
<b>Pomarine Jaeger:</b>			
30	Eastham (Nauset)	1	V. Laux, B. Nikula# & v. o.
<b>Parasitic Jaeger:</b>			
8,17	Monomoy	1,2	W. Bailey, C. Bauer
31	Annisquam, Barnstable	1,3	P. Stowe, H. D'Entremont#
31	P. I.	1	BBC (H. Weissberg)

<u>Long-tailed Jaeger:</u>		
29	Eastham(Nauset)	1(sub-adult) C.Goodrich
<u>Northern Skua: (excellent details)</u>		
10	Nantucket	1 imm. S.Perkins
<u>Lesser Black-backed Gull: (excellent details)</u>		
1,29-31	Nauset	1(sub-ad.),1(ad.) J.Harris# & v.o.,V.Laux# & v.o.
<u>Black-headed Gull:</u>		
21-31,25	Monomoy,Newburyport	1,2 J.Clancy# & v.o.,W.Petersen#
<u>Bonaparte's Gull:</u>		
6	Newburyport	275 H.D'Entremont#
<u>Laughing Gull:</u>		
3,17	Ipswich,Monomoy	1,292 J.Berry,BBC(R.Stymeist)
29	Boston(Long Is.),Hingham	125,31 D.Brown#,C.Clark
<u>Little Gull:</u>		
6,30	Newburyport,Plymouth	1,1 H.D'Entremont,M.B.O.Staff
<u>Sabine's Gull: (excellent details)</u>		
4-24	Monomoy	1 ad. W.W.Harrington# & v.o.
<u>Forster's Tern:</u>		
8,16,17	Eastham(Nauset)	1 v.o.,fide B.Nikula
20&26,23	S.Wellfleet,Plymouth	1,1 B.Nikula,B.Sorrie#
25&28	P.I.	1,1 W.Petersen#,M.Baird#
<u>Common Tern:</u>		
3	Monomoy	1000 BBC(H.D'Entremont)
<u>Arctic Tern:</u>		
3	Monomoy	2 BBC(H.D'Entremont)
6,7	P.I.,Chatham	1,1 R.Dwelly,D.Crompton
<u>Roseate Tern:</u>		
15	Tuckernuck-Muskeget Is.	2150(careful estimate) R.Veit
25	P.I.	47 W.Petersen & R.Forster
<u>Least Tern:</u>		
thr.	Tuckernuck Is.	125 prs. R.Veit#
<u>Royal Tern:</u>		
5-31,23	Monomoy,P.I.	1-2,1 B.Nikula# & v.o.,H.Wiggin#
<u>Black Tern:</u>		
thr.	7 localities	21 individuals v.o.
22,27	Clinton(Wachusett),Barnstable	9,31 B.Blodget,R.Pease
25,28-31	Plymouth,Concord(GMNWR)	19,1 B.Sorrie#,R.Emery# & v.o.
<u>Black Skimmer:</u>		
4&31,10-31	Monomoy,Eastham	1,2 W.W.Harrington#,v.o.
15-24,25	Plymouth,Wasque(M.V.)	1 imm.,1 imm. F.Gardner# & v.o.,E.Sears#
<u>Black-billed Cuckoo:</u>		
4-31	4 localities	singles-2(b.) v.o.
<u>Barn Owl:</u>		
thr.,1	Sandwich,Tisbury(M.V.)	1,1 v.o.,S.Whiting#
<u>Screech Owl:</u>		
thr.	5 localities	singles v.o.
<u>Great Horned Owl:</u>		
15,17	Norwell,Marshfield	3,1 M&B Litchfield,J.Clancy
<u>Barred Owl:</u>		
20	Holden	1 B.Blodget
<u>Long-eared Owl:</u>		
1-18	Chatham	2 J.Martin# & v.o.
<u>Short-eared Owl:</u>		
11-17	Monomoy	2 F.Gardner# & v.o.
26,31	Katama(M.V.),Barnstable	3,1 E.Chalif#,H.D'Entremont
<u>Chuck-will's-widow:</u>		
1-27,1-7	Nantucket,Chilmark(M.V.)	1,1 S.Perkins# & v.o.,F.Epstein
<u>Whip-poor-will:</u>		
thr.,24	Westwood,Medfield	2,2 J.Clancy
<u>Common Nighthawk:</u>		
15-31	6 localities	48 individuals v.o.
23	Weston	25-30 L.Robinson
<u>Ruby-throated Hummingbird:</u>		
24-31	4 localities	12 individuals v.o.
<u>Pileated Woodpecker:</u>		
26	Littleton	1 J.Baird
<u>Red-headed Woodpecker:</u>		
31	Oak Bluffs(M.V.)	1 M.Hancock

Yellow-bellied Sapsucker:			
19	Plymouth	1	T.Lloyd-Evans
Eastern Kingbird:			
19,24	P.I.	35,25	BBC(W.Drummond),BBC(N.King)
Great Crested Flycatcher:			
thr.	Westwood	1	J.Clancy
Yellow-bellied Flycatcher:			
29,31	Manomet,P.I.	2(b.),1	M.B.O.Staff,M.Argue#
Willow Flycatcher:			
4	Ipswich	3-4 m.	J.Berry
Empidonax:			
30	Winchester	9	P.Donahue#
Eastern Wood Pewee:			
23	Annisquam	1	H.Wiggin#
Olive-sided Flycatcher:			
29	Boston(Long Is.)	2	D.Brown#
29	Winchester,Manomet	1,1(b.)	P.Donahue,M.B.O.Staff
Tree Swallow:			
12,31	P.I.	1500,8000	BBC(G.Soucy),BBC(H.Weissberg)
Barn Swallow:			
10	P.I. 200 every 5 min. for 15 min.-going north		J.Berry
Cliff Swallow:			
7	Princeton 4 nests with young-late!		B.Blodget
Purple Martin:			
25	P.I.-Ipswich	<u>100+</u> many yg.	W.Petersen & R.Forster
Fish Crow:			
10-11	Tashmoo(M.V.)	1	B.Lee
Red-breasted Nuthatch:			
15,16	Cohasset,Chappaquidick Is.	2,1	M&B Litchfield,E.Chalif#
18	Quase(M.V.)	2	C.Noble
Winter Wren:			
3	Ipswich	1 m.	J.Berry
Carolina Wren:			
29	Manomet	5(b.)	M.B.O.Staff
Veery:			
31	P.I.	1	BBC(H.Weissberg)
Eastern Bluebird:			
12,24	Southboro,Lincoln	5-6,11	D.Cameron,P.Miller
Blue-gray Gnatcatcher:			
15,21,27	Manomet,Plymouth,Manomet	1,1,1	M.B.O.Staff,B.Sorrie,W.Petersen
Cedar Waxwing:			
28	Tuckernuck Is.	180+	R.Veit
Loggerhead Shrike:			
24-25	Tuckernuck Is.	1	R.Veit
White-eyed Vireo:			
10,12	P.I.,Tuckernuck Is.	1,1	E.Tracy,R.Veit
29,31	Manomet,Middleboro	12(b.),1	M.B.O.Staff,D.Briggs
Solitary Vireo:			
25	Scituate	1	C.Clark
Philadelphia Vireo:			
31	Manomet	1(b.)	M.B.O.Staff
Warbling Vireo:			
24	P.I.	1	BBC(N.King)
Black-and-white Warbler:			
26,30	Littleton,Winchester	1,2	J.Baird,P.Donahue
Golden-winged Warbler:			
30	Winchester	1	P.Donahue
Blue-winged Warbler:			
25,31	Mashpee,Manomet	1,46	V.Smith,M.B.O.Staff
Lawrence's Warbler: (Hybrid)			
30	Winchester	1	P.Donahue
Tennessee Warbler:			
18,30	Hingham,Winchester	1,2	C.Clark,P.Donahue
Parula Warbler:			
21	Manomet	2	M.B.O.Staff
Magnolia Warbler:			
31	Fairhaven	2(m.&f.)	G.Mock

Cape May Warbler:			
25,30,31	Annisquam,Winchester,P.I.	6,1,2	H.Wiggin,P.Donahue#,R.Emery#
Black-throated Blue Warbler:			
23	Annisquam	1	H.Wiggin
Yellow-rumped Warbler:			
18	W.Tisbury(M.V.)	1	S.Whiting
Blackburnian Warbler:			
30	Winchester	1	P.Donahue
Chestnut-sided Warbler:			
26,30	Littleton,Winchester	1,1	P.Donahue#,J.Baird#
Bay-breasted Warbler:			
25	Katama(M.V.)	1	R.Sargent#
Blackpoll Warbler:			
25,26	P.I.,Littleton	1,1 ad.	W.Petersen#,J.Baird#
Palm Warbler:			
16	Chappaquidick Is.	1	E.Chalif#
Ovenbird:			
23	Annisquam	2 migrants	H.Wiggin
Northern Waterthrush:			
4,12	Marblehead(MNWS),Weston	1,1	W.Drummond,L.Robinson
28	Wollaston	1 at 11 p.m.on windowsill	S.Higginbotham
Mourning Warbler:			
28	Manomet	4(b.)	M.B.O.Staff
Yellow-breasted Chat:			
28	Manomet	6(b.)	M.B.O.Staff
Wilson's Warbler:			
25	P.I.	1	W.Petersen#
Canada Warbler:			
12,14	Manomet,Martha's Vineyard	1,1	M.B.O.Staff,E.Chalif#
Bobolink:			
10	Princeton	44	B.Blodget
Yellow-headed Blackbird:			
13	Tuckernuck Is.	1(sub-ad.m.)	R.Veit
24,29-31	P.I.,Monomoy	1 imm.,2 imm.m.	T.Martin,V.Laux#
House Finch:			
25	Newburyport	1	W.Petersen#
Henslow's Sparrow:			
1-10	Newburyport	2(from May)	v.o.
Sharp-tailed Sparrow:			
17	Monomoy	8	BBC(R.Stymeist)
Seaside Sparrow:			
7,30	Chatham,Manomet	3,1	D.Crompton,M.B.O.Staff
31	P.I.	1	BBC(H.Weissberg)
Vesper Sparrow:			
25	Newburyport	1	W.Petersen#
Lark Sparrow:			
16,27-31	Tuckernuck Is.,P.I.	1 ad.,1 ad.& 1 imm.	R.Veit,G.Soucy# & v.o.
Dark-eyed Junco:			
20	Middleboro	2	R.Maxim
White-throated Sparrow:			
5	Manomet	1	M.B.O.Staff
Lincoln's Sparrow:			
17	Chilmark(M.V.)	1	E.Chalif#

#### Abbreviations

ad.	adult	BBC	Brookline Bird Club
b.	banded	GMNR	Great Meadows National Wildlife Refuge
f.	female	MBO	Manomet Bird Observatory
imm.	immature	MNWS	Marblehead Neck Wildlife Sanctuary
m.	male	WBWS	Wellfleet Bay Wildlife Sanctuary
max.	maximum	E.P.	Eastern Point
thr.	throughout	F.M.	Fowl Meadow, Milton
unc.	uncommon	Mt.A.	Mt. Auburn Cemetery
v.o.	various observers	M.V.	Martha's Vineyard
yg.	young	P.I.	Plum Island
#	additional observers	S.N.	Sandy Neck, Barnstable

## PLANTING TO ATTRACT AND FEED BIRDS

Harry F. Sprong, Littleton

I am a bird watcher who has concluded that most enthusiasts go away from their homes to watch birds primarily because they have little or nothing to encourage visits from our feathered friends. The problem does not seem to be one of space but one of adequate cover and natural foods. This situation can be corrected by planned planting, so that certain types of shrubbery and trees will not only have attractive blossoms in the spring, but will supply very important berries and fruit in the fall and winter.

Many people offer grain and special seeds to draw birds into their yards. But when the birds have grown accustomed to the easy living and hand-outs, the people either neglect their feeders or move away, leaving the victims of too much relief to their own devices, usually at a time when food is scarce. How much better it would have been to let nature supply the food, helped by man through planting proper trees and shrubs that provide both nourishment and shelter when the mercury falls.

We have feeders for sunflower and thistle seed, suet holders, and all kinds of contraptions designed to attract most species of birds, plus, of course, our furry, squirrely friends. However, none of these has ever provided the thrill I had when I looked out the kitchen window to see four grouse feeding in the hawthorn tree in our front yard and then looked in the back yard to see another partridge in an American cranberry bush.

Pine Grosbeaks visit us frequently, attracted by the bright red hawthorn berries. Pheasants vary their meager winter diet by working the multiflora hedge and by picking up the cranberries the partridges have left.

In the early fall, we have many Robins feasting on the berries in our dogwood trees. When these are gone, the Robins move to the black alders, cottoneasters, and finally the crabapple trees. They stay with us until the cold forces them to move along, though during some winters a few hardy souls stay on to keep our Cardinals company.

The cones on the spruces at the northwest corner of our house are free lunch-counters for goldfinches and are also enjoyed by Pine Siskins when they come down from the far north. The chickadees hide in the pine cover behind the house, and the Mourning Doves enjoy the warmth of the rising sun in the red pines, which they also use as shelter from the wind.

There are no secrets about what shrubs or trees to plant; the Massachusetts Audubon Society has excellent pamphlets on the subject. All that is really needed is the interest, supported by a shovel, a small hole, a little water, plus tender loving care. As a reward, you will have living color outside your window on even the dreariest winter day. Cedars, junipers, bittersweet, arrowroot and mountain ash are other native trees and shrubs that rate high as sources of food and shelter.

Isn't it about time that all of us took a good, clear look at where we live? We should begin returning to the land the natural things of beauty that we have spent so many years eliminating.

## Bird Bonanzas Tours

are ornithological tours — not "nature" or "natural history" tours. They are designed not by travel agents, or even by "birders," but by ornithologists with extensive experience in the areas of the tours.

All leaders of our coming spring tours have done advanced study, writing and teaching in the field of ornithology, and, in addition, have lived for extended periods of time in the areas of their tours.

For example, Dr. C. Hilary Fry of the Department of Zoology, University of Aberdeen, who will lead our WEST AFRICA tour has lived in Nigeria seven years. He inaugurated the Nigerian Ornithologists Society and edited its bulletin. His research has taken him to East, South and Central Africa, and he has participated in trans-African expeditions mapping out areas for faunal reserves. He has published numerous articles in the Ibis and other publications.

In designing our West African tour, he didn't think only of tourist attractions, but primarily of faunal and vegetation zones and an itinerary most productive for the visiting ornithologist.

West Africa has much to offer the ornithologist — a diverse fauna and geography and forest zones vastly more extensive than those in East Africa.

During our visit, March 24 - April 13, there will be much courtship activity and native and Palearctic migration will be in full swing. We will visit exotic areas, such

as the great Congo, Volta and Niger Rivers, Lake Chad and Timbuktu. If you are not

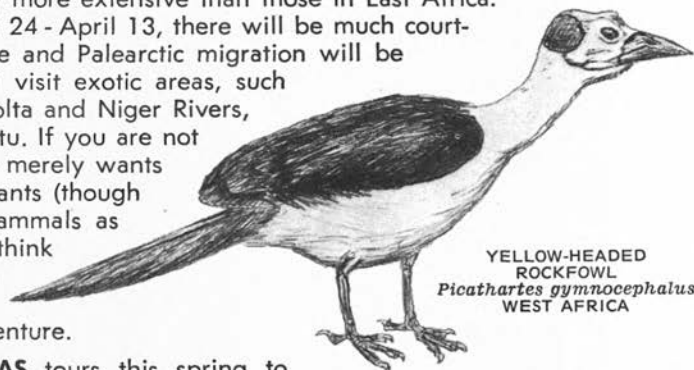
the typical tourist who merely wants a few photos of elephants (though

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