



Steller's Sea Eagle (Haliaeetus pelagicus) Kure Atoll, Hawaii, February 1978. Photo/ G.H. Balazs.

The Changing Seasons

*An analytical summary of Spring Migration, 1978,
in North America with a provocative consideration
of the evolutionary impact of avian vagrancy*

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Introduction and Overview

THE SPRING SEASON OF 1978 was probably not the most exciting in recent years for birders, but there were many interesting departures from normal migration patterns as well as healthy numbers of intriguing extralimital records. Almost without exception, Regional Editors characterized the prevailing climatic conditions in the Midwest and East as cool and wet. The cold winter persisted well into spring, delaying migration and producing a plethora of late departure dates for many passerines. Extensive flooding during May enhanced shorebird numbers in normally-avoided inland habitats.

Farther west weather conditions varied greatly among regions. The Northern Rocky Mountain Region was warm and dry in March but cool and wet in April and May. The South-

west was wet early in the period, encouraging some of the most lush vegetation growths in the deserts in modern memory. Alaska was cool early and warm late. The Middle Pacific Coast Region was wet in March while the Southern Pacific Coast Region was wet in April and May. Little wonder the West Coast doesn't experience waves of migrants comparable to those of the East Coast.

I have opted not to attempt a detailed analysis of weather patterns and migration because there are so many "Changing Seasons" editors more expert in that field of analysis than I. Instead I present in the next few pages my interpretations of the significant patterns and records lurking in the regional reports of the spring migration, followed by a discussion of some potentially important evolutionary factors that bear on the problems of migration, dispersal, and vagrancy.

Winter Irruptions: The Aftermath

OVER MUCH OF THE COUNTRY the winter of 1977-1978 was one of the most exciting in recent memory from the standpoint of incursions by traditionally irruptive species. Just as the winter season bore out autumn's predictions, so do this spring's late records and extralimital breedings mirror the magnitude of certain winter irruptions. Minnesota takes first prize for the occurrence of no less than 15 calling Boreal Owls along the Gunflint Trail in Cook County in early May. By the end of the period at least one nest had been discovered, the first for the contiguous 48 states. This came on the heels of the most massive winter invasion on record. Elsewhere Ontario reported several late lingering Boreals, and an amazing 23 were banded between April 24 and May 7 at Whitefish Point, Michigan. Great Gray Owls were reported late in Ontario, and a May bird in Aitkin County, Minnesota may have been breeding. Saw-whet Owls also made news in several regions. Nesting birds were found in Connecticut and southeastern Pennsylvania, and a May 11 occurrence in Louisiana was a surprising date for a sixth state record. Good numbers were also reported through the Middlewestern Prairie and Niagara-Champlain regions.

Little mention was made of Red-breasted Nuthatches and Bohemian Waxwings, but the extensive Northern Shrike irruption precipitated reports of birds remaining well into April in the Middlewestern Prairie and Northern Pacific Coast regions and generally "late" throughout the northern two-thirds of the country and the Southern Pacific Coast Region. A Northern Shrike at Chincoteague, Virginia on March 6 was probably the southernmost of the winter in the East.

Finches normally play a prominent role in winter invasions and this year has been no exception. Because so many of these birds rely on food resources that fluctuate unpredictably (at least to us) in space and time, there always exists the exciting possibility of sudden distributional changes and breeding in unexpected localities. Crossbills frequently subscribe to this philosophy but Pine Siskins

upstaged them this year. Siskins were reported late throughout the East and Mid west. Notable were records on May 10 in Alabama and May 25 in North Carolina. But the distribution of extralimital breedings was most remarkable: eastern Massachusetts, central New York, northern New Jersey, Staten Island, Ohio, Kentucky, Indiana, Illinois, Iowa, and Kansas. The only reports of Red Crossbills nesting out of their normal range were at Evergreen and Fort Collins, Colorado.

EVENING GROSBEAKS CONTINUED their continent-wide surge, reaching the Gulf Coast in numbers and remaining to breed for the second time in the Huachuca Mountains of Arizona. Almost all regions reported high numbers of this adaptable species. Some very late May records in the Appalachian and Hudson-Delaware regions portend still further breeding range extensions. A fine winter flight of Pine Grosbeaks in the northeastern and north-central states left late birds in Wisconsin on May 14 and singing birds in northern New Jersey on the almost certainly unprecedented date of May 13! Finally, the remarkable redpoll invasion of the past winter continued to make news into the spring. Reports of Hoaries were widespread across the northeastern states; but attempts to identify subspecies, let alone distinguish Hoaries from Commons, must be taken with a grain of salt because of the many uncertainties surrounding the relationships within this group. Claudia Wilds' cautionings in the last Changing Seasons report are well advised. Efforts to establish local records of redpolls of specific geographic origin without voucher specimens must be discouraged.

Geographical Shifts and Displacements

HERE I USE THE TERM "shift" to describe an apparent movement of numbers of a given species east, west, or north of its normal migrational route. "Displacements" are occurrences of isolated individuals well outside their normal route but not clearly part of a phenomenon involving a whole population of a species. Both shifts and displacements could be functions of a partially innate tendency to

disperse (under certain conditions), or they may simply be proximate results of local weather happenings. Both of these explanations have potentially far reaching biological ramifications. Isolated displacements, however, unlike shifts, may represent aberrant birds with malfunctioning "migration control" mechanisms. Such displacements should have little if any biological significance except to take those particular individuals out of the running as adaptive influences in the evolution of their species. Obviously there is a substantial uncertain area of sympatry in these categories, but as a biologist I feel compelled to at least attempt to distinguish between them. As a birder, however, I must admit that concern about the biological significance of, say, the presence of a vagrant, fades swiftly into at least momentary irrelevance at the time of discovery.

Shifts. This spring there was probably an average complement of migrational shifts east to west, west to east, and south to north (over-shooters). In the east-to-west group passerines dominated, beginning with Scissor-tailed Flycatchers, which made appearances in Southern California and Arizona. One or two are now reported annually in Arizona, warranting a re-evaluation of vagrancy status. Eastern Phoebes in both Arizona (first spring record) and Point Reyes, California hint at more than quirk occurrences in view of repeated records in the past. Editors for the Southwest and Southern Great Plains regions reported a westward shift of Gray Catbirds and Wood Thrushes in Texas and Brown Thrashers as far as New Mexico. Gray Catbirds are also becoming regular in late May in the Southern Pacific Coast Region. The Southern Great Plains documented an unusual flight of Worm-eating Warblers, with eleven records west to Big Bend and one at Carlsbad, New Mexico. Northern Orioles of the "Baltimore" persuasion made appearances in Arizona (twice) and southern California.

CONCERNING SHIFTS FROM WEST TO EAST, Eared Grebes made an impressive showing in the Midwest. The best numbers ever were reported from Iowa, Illinois, and Missouri, and five occurrences in Wisconsin were also high. Western Grebes drifted farther east than usual in the Western Great Lakes Region with one bird reaching Ozaukee County,

Wisconsin. White-fronted Geese turned up at widely scattered eastern localities. There were no less than 15 reports east of the normal route of this species, with the easternmost in southeastern Pennsylvania and Maryland. Cinnamon Teal occurred extralimally or in unusual numbers in eastern Montana, Alberta, the eastern portion of the Southern Great Plains Regions, Minnesota, Wisconsin, and Alabama. Barrow's Goldeneyes stood out among the diving ducks, with wintering birds or migrants well distributed between Minnesota and New York.

Swainson's Hawks were conspicuous in Minnesota, two were recorded from Wisconsin, and five nests were located in Iowa. Sandhill Cranes made surprising appearances in Georgia and Tennessee, and 23 sightings were made across the northern tier of states and provinces from Massachusetts to Minnesota, the latter accounting for 14 of the reports. Three species of shorebirds typical of the midwestern prairies occurred in near record numbers in the East this spring. A huge flight of American Golden Plovers graced the western portion of the Middlewestern Prairie Region and good numbers were also reported from Florida north to Niagara-Champlain and northwest to Ontario. The White-rumped Sandpiper migration was excellent along the entire Atlantic seaboard, with many inland reports made possible by the extremely wet conditions that prevailed so widely. Wilson's Phalaropes staged by far their best flight ever in the East. From the Middlewestern Prairie east to the Northeastern Maritime Region and south to the Gulf of Mexico nearly every Regional Editor remarked on the high numbers of this species. Breeding is suspected in central New York and at new sites in Ontario.

Notable west-to-east shifts occurred for three species of passerines. Scissor-tailed Flycatcher reports came from Florida and Massachusetts and greater numbers than usual were recorded east of the Mississippi River in the Central Southern Region. Thirteen Yellow-headed Blackbirds showed up in scattered localities from the Northeast south to North Carolina. Good numbers were also in the Middlewestern Prairie and Ontario regions following the "heaviest and latest" flight ever in the Central South. Western Tanagers appeared in Minnesota (2), Wisconsin, and

four blocks from my Maryland home

CICONIFORMS CONTRIBUTED MOST of the significant south-to-north shifts. Country-wide there were enough heron overshooters to indicate a pattern not unexpected in this family of notorious wanderers. The following species in decreasing order of frequency occurred well north of their normal breeding ranges: Snowy Egret, Cattle Egret, Little Blue Heron, Great Egret, and Louisiana Heron. White-faced Ibises arrived in unusual numbers in the Middlewestern Prairie and Northern Great Plains regions, with two reaching Minnesota. The only passerine overshooters of note were Summer Tanagers, and Blue Grosbeaks. The former showed an increase in Delaware and coastal New Jersey and accounted for six reports in the Northeastern Maritime Region. Blue Grosbeaks invaded New England in mid-April, but curiously, the flight completely missed other eastern regions. Indigo Buntings and a few Rose-breasted Grosbeaks, also components of this flight, were similarly missed elsewhere.

Displacements. Among typically eastern birds occurring west, but in such small numbers as to defy detection of pattern, are the following. A Stilt Sandpiper at Saanich, Washington was an isolated rarity there. In this same region a Ruby-throated Hummingbird returned to Vancouver Island for the second consecutive year. A White-eyed Vireo at Point Reyes in May provided a third California record and two Yellow-throated Vireos in the Southern Pacific Coast Region were also very rare. A Blue-winged Warbler at Loveland, Colorado was out of range as was a Yellow-throated Warbler at Long Beach, California. A Blackpoll in the Middle Pacific Coast Region, Palm Warbler in Oregon, and Hooded Warblers in South Dakota and at Point Reyes round out the warbler displacements (what would California do without Point Reyes?). Several Summer Tanagers were sighted in the Southern Pacific Coast Region.

A good number of western vagrants showed up on eastern scorecards this spring. Three White Pelicans in central New York in mid-May and three reported by a newspaper in Howdenville, Ontario a week later are very likely the same individuals. Such a statement cannot be made for most species, but the likelihood of grounded pelicans escaping detection

and publicity is about as low as for any species. A Long-billed Curlew at Wallops Island, Virginia (not included in the regional report due to my own negligence in reporting) was exciting for the spring or any season. A Burrowing Owl visited Illinois, where it appeared "at home", but an individual on Starr Island off New Hampshire (second state record) must have felt decidedly out of place. A Broad-tailed Hummingbird drifted east to Morton County, Kansas, for a first state record and a *Selasphorus* hummer in Massachusetts could have been either a Rufous or Allen's. The latter species made a showing at Noxubee N.W.R. in Mississippi.

ACASSIN'S KINGBIRD at Billings, Montana was certainly unexpected as were two tentative Cassin's on the shore of Lake Superior in Wisconsin at the end of May. The unlikelihood of Western Kingbird at the latter locality lends some credence to that record. An Ash-throated Flycatcher in Brooklyn, New York, found by Paul Buckley, can perhaps be credited to the additional birding time afforded Regional Editors who have abdicated their coveted positions. A Mountain Bluebird provided the third record in as many years for New York. The first record for the Black-capped Vireo east of the Mississippi River came at Belle Fontaine Beach, wherever that may be (Central South). Finally, Townsend's Warblers made two eastern appearances, one at Great Gull Island east of Long Island, New York, and one in Massachusetts.

Overshooter "displacements" provided excitement in many parts of the country. A Pied-billed Grebe was well out of its range at the Copper River Delta in Alaska, while on the opposite side of the continent Magnificent Frigatebirds surprised birders in Maryland and Maine. Also noteworthy were several Ring-necked Ducks in unpredictable parts of Alaska. A Swallow-tailed Kite reached Ontario and the species was suspected of breeding on the coast of Texas and on the Outer Banks of North Carolina. Most unexpected was a Buff-collared Nightjar north of Tucson, Arizona, but somewhat more predictable was the third state record of Coppery-tailed Trogon for New Mexico. Gray Kingbirds were tallied in both North Carolina and Maryland. A wintering Great Kiskadee lingered until March 21 at New Orleans, while

another kiskadee greeted birders in Tucson, Arizona, subject to acceptance. Blue-gray Gnatcatchers reached Malheur Refuge in Oregon and Brookings, South Dakota. An occurrence in Vermont could foreshadow a breeding range extension. A Mangrove Warbler near Rockport, Texas, was astonishing regardless of the taxonomic status of this warbler, often lumped with the Yellow Warbler.

Range Changes

GRATIFYINGLY, MOST OF THE EVIDENCE for changes in ranges of North American bird species suggests expansions rather than contractions. The pesticide scare of the 1960s and early 1970s seems to be reversing itself after the 6-year moratorium on DDT use, with many susceptible species stabilizing their populations and reoccupying localities previously depleted. Most species exhibiting apparent population increases, however, are not clearly rebounding from pesticide-related declines.

Double-crested Cormorants bred for the first-time at Hopewell, Virginia, adding one more locality to the scattered breeding sites of this species in the eastern United States. Cattle Egrets were expanding their range in Colorado, Utah, Nevada, and Arizona as they continue to challenge strongholds of native species. They were unreported only in the Northwest. In Florida Reddish Egrets bred at Vero Beach, the first known nesting north of the Arsenicker Keys in this century. By early June a pair had nested at Merritt Island, signifying total reoccupation of the pre-feather trade breeding range. Gadwalls were reported from Nova Scotia and Ontario under circumstances suggesting breeding range extensions.

White-tailed Kites continued their increase, with extralimitals reported from Arkansas and Florida in the East and Oregon and Washington in the West. The species is included in this section because of its breeding inroads into South Texas and the Far West. Saw-whet Owls expanded their breeding range in the Northeast, as reported above in the section on winter invaders. Lucifer Hummingbirds occurred in Arizona again and are becoming regular in the Southwest. In West Virginia Willow Flycatchers are reported to be expand-

ing their breeding range at the expense of Alder Flycatchers.

COMMON RAVENS CONTINUED their investigation of northeastern localities unoccupied for decades. Birds were seen this spring in Massachusetts, northern New Jersey, eastern Pennsylvania, southeastern Kentucky and Ontario. Ravens were also observed in the northern Sierras of California, where they are rare. Fish Crows surged in the Northeast, with occurrences inland in Delaware, well up the Hudson River in New York, and peripherally in Maine (second record) and Ontario (probably first confirmed record). Blue-gray Gnatcatchers ranged to Québec, Ontario (unusually common), and more westerly to Omaha and south Texas. Québec reported its second breeding record. Mockingbirds appeared in the Dakotas, Saskatchewan, Idaho, Oregon, and Northern Pacific regions. This species continues to find suitable breeding conditions wherever it visits, provided that birds of the opposite sex reach the same localities.

Starlings added insult to injury by nesting in numbers at Fairbanks, Alaska following last year's first breeding record there. In Texas, Lucy's Warbler established its first breeding record with a nest in Presidio County. Common Grackles showed up west of the continental divide in the Mountain West Region with several probable nestings. Pairs were spotted at Helena, Montana and Rexberg, Idaho, while Big Bend, Texas logged its first record. House Finches continued their proliferation in the East. They were reported as "common" in the Appalachian Region while they were establishing their first record for Missouri and expanding their nesting range into Winston-Salem, North Carolina and probably Cleveland and Cincinnati. Five birds in Nova Scotia in April and a courting pair in St. Lambert, Québec (for the third provincial record) further dramatize the phenomenal success of this introduced species. Fittingly, a May census in Dutchess County, New York, found House Finches outnumbering House Sparrows for the first time.

Cassin's Sparrows in the Southwest made spectacular inroads into normally uninhabitable desert habitats as a result of the spring rains and consequent vegetation growth. Record numbers of Cassin's nested in Arizona and densities as high as 500 birds/km² were

reported in late March. Fifteen singing males reached the Lanfair Valley of Southern California for only the third regional record. There was no mention of other species exploiting these unusual conditions but one would suspect that many species must have been affected.

Population Trends

REGIONAL EDITORS FROM THE MIDWEST to the Atlantic and Gulf continued to comment on the decimation of populations of several species of passerines by the severe winter of 1976-1977. This situation may have been aggravated by this past winter's cold and snow. The plight was termed "drastic" in the Middlewestern Prairie Region, where populations of Bobwhites, Winter Wrens, Carolina Wrens, Mockingbirds (down 90% in central Missouri), Eastern Bluebirds, and Golden-crowned Kinglets remained very low. Rusty Blackbirds were included in the list in the Northeastern Maritime Region. Banding stations in the Appalachians reported Song Sparrows down 40 to 60%, and the endemic junco in the southern Appalachians apparently suffered major losses. Even Florida endemics did not entirely escape the effects of the 1977 winter. Herb Kale reports that the Florida populations of Spot-breasted Orioles was substantially depleted by February, 1977. Given average winter conditions, it will no doubt take well over a decade before many of these species recover to the levels of the early 1970s.

Fortunately there was plenty of good news regarding population increases, some documented and some merely suspected. Migrating Common Loons were reported in very good numbers throughout the East and in the interior of the Southern Pacific Coast Region. In Hawaii two Laysan Albatrosses landed on Oahu and a third was found dead there, marking the first time this species has shown an "interest" in nesting on Oahu this century. Laysans have recently bred on Kauai, where 20 individuals spent the past winter. Northern Fulmar reports were markedly down off the West Coast but they continued their increase in the North Atlantic and established a first state record for South Carolina. Fulmars are now one of the most conspicuous components

of the pelagic avifauna of George's Bank off Massachusetts. In the same general area Manx Shearwaters seem to be on the increase. A group of seven off Rhode Island rekindled suspicions of breeding on one of that state's small islets. I am aware of only one breeding record for the Atlantic Coast of the United States, in Massachusetts in 1973.

DDOUBLE-CRESTED CORMORANTS ARE INCREASING over the entire country except for Vancouver Island, judging by this spring's reports. Despite many overshooters, herons were felt to be generally down in numbers in the Middlewestern Prairie. Snowy Egrets, however, are still increasing in Québec and Niagara-Champlain. Observers recorded more Pintails than usual in Ontario, Niagara-Champlain, and the Great Basin. Severe winter weather is probably responsible for a 50% reduction in the Sharp-tailed Grouse population in eastern Montana. Back in Hawaii, the population of the endangered Hawaiian Stilt should improve as birds occupy newly created breeding impoundments.

Lesser Black-backed Gulls are no longer cause for great excitement on the East Coast. Many turned up this winter and spring south to Florida and there were even reports from Lake Erie and interior Pennsylvania. Thirty-four Black-headed Gulls in Nova Scotia may reflect the recently discovered breeding colony in Newfoundland (*AB* 31:1112). Little Gull numbers in the East seem to have declined somewhat in the past few years. They were reported as scarce in Ontario, where they are known to breed. A Little Gull found in Washington in April, however, was only the second recorded for the North Pacific Coast Region.

Numbers of Spotted Owls were considered good in California but the species may be declining in Oregon. Worm-eating Warblers are increasing in southern Wisconsin and Michigan. The most disturbing population trend of all is that of the endangered Dusky Seaside Sparrow in Florida. There are believed to be only 24 males of this distinctive race in the St. Johns population and none at all in the traditional Merritt Island locality. Perplexingly, no *females* or *nests* have been found for over two years. If this is the true state of affairs, it is clear that we will sadly bear witness to the extinction of the Dusky Seaside Sparrow in the very near future.

Miscellany

OF THE MULTITUDE OF INTERESTING reports from all regions this spring, many do not entirely suit the categories I have chosen but are nonetheless of considerable interest and/or significance. The following is a sampling.

Loons-Waterfowl. In 107 hours of observation from Goleta Point, Southern Pacific Coast Region, Paul Lehman counted an average of 370 migrating loons/hour in the ratio of 70 Arctic: 4 Red-throated: 1 Common. In the eastern states and Canada there was a scattered inland movement of Red-necked Grebes. A concentration on Cape Cod combined with a near absence of this species on the coast of the Hudson-Delaware Region suggests a migratory movement over the open ocean. A Least Grebe showed up at Big Bend in Texas. Two Laysan Albatrosses were off Westport, Washington, along with good numbers of Black-footeds. A Black-browed Albatross was logged off the Maine coast and two Cory's Shearwaters in the Gulf of Mexico off the Lower Keys provided a first record for that area. All West Coast regions reported Flesh-footed Shearwaters, always very rare in spring.

Two Brown Pelicans were unseasonal on May 24 in Oregon. Great Cormorants occurred in Georgian Bay and they may be increasing as winterers on the coast of the Middle Atlantic states. Saskatchewan recorded its first Yellow-crowned Night Heron while eggshell thinning and breakage was reported in an Idaho colony of Black-crowned Night Herons. American Bitterns out of their expected range were thought to be nesting near Yuma, Arizona and at the Salton Sea. A Wood Stork in New Jersey in late February (!) may have been related to birds recorded at Cape May last fall.

Among waterfowl, the Garganey was the bird of the season, with simultaneous April records in Massachusetts and Tennessee. This species is also being recorded with increasing frequency in Hawaii, where it first occurred in 1961. Prior to this spring there were ten records for the North American mainland, of which at least seven came between March and June. Other noteworthy waterfowl were three species of swans in one flock on Vancouver Island, Barnacle Geese in New York and Pennsylvania, "Black" Brant inland in Arizona

and California, four "Aleutian" Canada Geese in the Pribilofs, and Common Eiders inland in Illinois and Michigan.

Hawks - Alcids. Nearly all regions reported hawks in general to be either numerous or increasing. A Black Vulture reached Rhode Island in early April. Rarities farther west were a Black Hawk in Nevada, Gray Hawk and Snail Kite in South Texas, and a Steller's Sea Eagle at Midway and Kure Atoll in the Hawaiian chain. Rough-legged Hawks staged two rather localized invasions, one along the West Coast into the Southern Pacific Coast Region, and one down through the Appalachians and Central South to the Gulf of Mexico.

EIGHT NEW BOOMING GROUNDS of the Greater Prairie Chicken were discovered in northern Minnesota. American Coots nested in Maine while Black Rails were suspected of breeding on the Gulf Coast of Alabama and Florida. A probable Yellow Rail in Riverside, California would be the first since 1914 in the Southern Pacific Coast Region. Endangered species recovery teams might have a lesson to learn from a Hawaii report of the endangered Hawaiian Coot, Gallinule, and Duck all nesting successfully in a wet pasture adjacent to hamburger stands and auto repair shops!

A mid-to-late March flight of shorebirds to the Northeastern Maritime Region produced several record early arrival dates. But more astonishing was an April flight of palearctic shorebirds in Newfoundland. The group included 13 Eurasian Golden Plovers (one specimen taken), a Black-tailed Godwit, and a Eurasian Curlew. Thousands of Red Phalaropes were observed on pelagic trips out of Ocean City, Maryland, in late April and early May. Other unusual reports were of a Sharp-tailed Sandpiper in Alberta, a Mountain Plover in Alabama (second state record) and a Hudsonian Godwit in Mississippi (first record).

An Iceland Gull was found on the Texas Coast, a California Gull was a first for Florida, and likewise a Mew Gull for Idaho. A remarkable Western Gull at Denver will be a Colorado state record if accepted. Arctic Terns were seen along the Atlantic seaboard again this spring as last. A Sooty Tern was suspected of nesting on the Outer Banks of North Carolina. If true, this would probably be the

northernmost nesting site in the world for this cosmopolitan species. There was a small movement of Common Terns through the Great Basin. Two Parakeet Auklets off Washington in April were highly unusual and a tally of 34,372 Common Murres migrating past Pigeon Point, California on April 23 was high.

Doves – Kinglets. A Monk Parakeet constructed a nest or roost at Augusta, Georgia. Good numbers of Yellow-billed Cuckoos found good numbers of caterpillars in much of the Northeast. Pygmy Owls were reported doing well in the Colorado Rockies. There is a belated report from Seattle of the first nesting of Anna's Hummingbird for the Northern Pacific Coast Region in 1977, followed by a repeat effort this year. Purple Martins in Massachusetts and a Bank Swallow in New Jersey on March 22 followed the same front that precipitated the early shorebird flight. On May 1 at Fort Collins, 100,000 swallows were notable. Douglas Kibbe makes mention of a poorly-known annual late flight of Blue Jays and other passerines west of Rochester, New York, on the south shore of Lake Ontario. The flight extends well into June. Varied Thrushes showed up in several new localities this spring after the major winter flight. Most birds had departed by April but there were lingerers until late April in Iowa and Wisconsin and one into May in central California.

Vireos – Finches. A Yellow-green Vireo visited the South Texas Region. Bachman's Warbler was again reported from the Francis Marion State Forest in South Carolina, although no recent sightings have been corroborated by many observers. Very rare birds for Arizona at any time were Blackburnian Warbler, Slate-throated Redstart, and Rufous-capped Warbler. Southwestern Québec produced a Kirtland's Warbler that had been banded as a nestling in Michigan in 1974. This makes the second Canadian record for Kirtland's Warbler in as many years. Connecticut Warblers were more numerous than usual in the East. Twenty-five were killed at a TV tower in Cocoa Beach, Florida. Hawaii reports the first record of the Akiapolaau on the Kona side of Hawaii Island since the late 1800s, and the bird nested successfully.

Bobolinks were common in the Southern Great Plains and Mountain West and now

occur each spring in southern California. Rusty Blackbirds nested for the second consecutive year in western Massachusetts and Brewer's Blackbirds made rare spring appearances in the Northeastern Maritime Region. Three Bronzed Cowbirds were at New Orleans April 1, with one seen trying to parasitize a nest of an Orchard Oriole. Rare fringillid occurrences were a Lazuli Bunting in Maryland, a Hawfinch at Gambell, Alaska, a Le Conte's Sparrow in New Mexico (second state record), a Chestnut-collared Longspur at Carson, Ontario, and a very late Snow Bunting at Cape Mendocino, California, on May 11

Some Ultimate Considerations

THERE CAN BE LITTLE DOUBT that many of the so-called vagrant occurrences of birds during migration are more than just accidents. This was first pointed out by Grinnell in 1922 (*Auk* 39: 373-380) and subsequently referred to more than once in the pages of "The Changing Seasons". Grinnell considered such vagrants to be pioneers of their species, risking their own survival and reproductive potential in the interest of "testing out" new areas for potential occupation by their species. But today it is the prevailing view among evolutionary biologists that such martyrdom does not exist as such in the natural world. Rather, all traits of organisms, including behavioral attributes, have evolved because they benefit the individual exhibiting those traits, not because of benefits gained by the species at the expense of individual fitness. Therefore, it is incumbent upon the biologist to explain seemingly altruistic behavior in terms of the advantages that accrue to the individual from performing such behavior.

If we assume that tendencies to disperse away from traditional ranges are adaptive, triggered perhaps by certain environmental or social stimuli, what insights does this theoretical framework give us into the problem of avian vagrants? The problem seems to be different for spring than for fall vagrants. Food stress or some form of social stress in the fall might instill in a bird a tendency to depart for a place where its potential for survival is enhanced. If such a dispersal tendency is not unduly influenced by the north-south component typical of migratory movement, the bird

could relocate far east or west of the normal range of its species. Here it may overwinter. But, regardless of whether its final stopping point becomes its annual wintering ground, chances are it will return to the vicinity of its natal area for subsequent breedings. In such cases the east-west displacement may not be of any great biological significance (except for species that pair on the wintering grounds).

It is known that the great majority of fall vagrants are immatures. Moreover, immatures of many migrant passerines in the East reach the Atlantic coast in the fall in far greater numbers than adults. This suggests that immatures have a stronger dispersal tendency than adults and is consistent with the idea that dispersal in the fall might be triggered by competitive stresses imposed by older, more established birds. By the same token, it is possible that a bird-of-the-year might be able to evaluate its next year's breeding potential on the basis of the number of competitive encounters faced during the juvenal and early fall period. Severe stress could induce the bird to seek out new breeding grounds away from the traditional range the following spring.

THIS BRINGS US TO THE SPECIAL PROBLEM faced by the spring vagrant. The function of spring migration is to reach a suitable area for breeding to take place. If spring vagrants are unsuccessful in obtaining mates and reproducing, their vagrancy becomes suicidal in the evolutionary sense. So it is in the interest of the individual spring vagrant to counterbalance in some way the high odds against finding a mate of the same species. One way of

accomplishing this is simply by altering direction and returning to the normal range if potential mates are not encountered. Another is to establish social bonds on the wintering grounds or during migration and thereby "lure" potential mates astray. Occasional extralimital breedings suggest that some species must form such bonds. I recall particularly a pair of Bewick's Wrens nesting in New York recently, hundreds of miles outside their normal range. This leads to the interesting prediction that spring vagrants of a species might tend to show up in twos or threes more often than fall vagrants.

These are just a few thoughts that have occurred to me during the course of assembling data from regional reports into a hopefully coherent analysis. This short discussion is, of course, mostly speculative and rests on the fairly safe assumption that there is often evolutionary rhyme and reason to extralimital occurrences of migrants. But I hope it serves at least to place certain aspects of bird migration into a perhaps unfamiliar but thought-provoking perspective. The ultimate "why" questions about biological phenomena deserve close attention because they address the issues that are the crux of evolutionary change. And, along the way, studies of birds have been integral in providing much of the impetus fostering the development and refinement of evolutionary theory.

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