

BIRD NOTES by Rick Pyeritz

The longest day of sunlight...comes at the beginning of Summer rather than in its midst. In consequence, all Summer long we are inclining towards Summer's end instead of building to a climax and then tapering off.

----- *Hal Borland*

As the amount of daily sunlight continues to decrease this time of year, a behavior change in many of our Southern Appalachian birds begins to occur. They become restless, begin to increase feeding and body fat. They are preparing for their annual autumnal migration to the tropics. Migration can be defined as the purposeful and directed seasonal movement from one geography to another in a repeated annual cycle ---- a life history solution to the ecological challenges posed by living in a seasonally variable world.



R.T. Hummingbird by Alan Lenk

Braving rain, predators, dehydration and unfavorable winds, I am amazed that birds fledged this past summer, and that have never left our mountains, are able to fly over 1000 kilometers to their wintering grounds. Why and how do birds undertake such journey? Wouldn't it be better if the birds would just stay around after they have fledged, instead of exposing themselves to the dangers of long distant flight? Well, some of them, such as the Carolina Wren, Cardinal, Robin, Rufous-sided Towhee, and Eastern Bluebird, do stick around for the winter season. But, some find it necessary to undertake the long perilous journey to a tropical location.

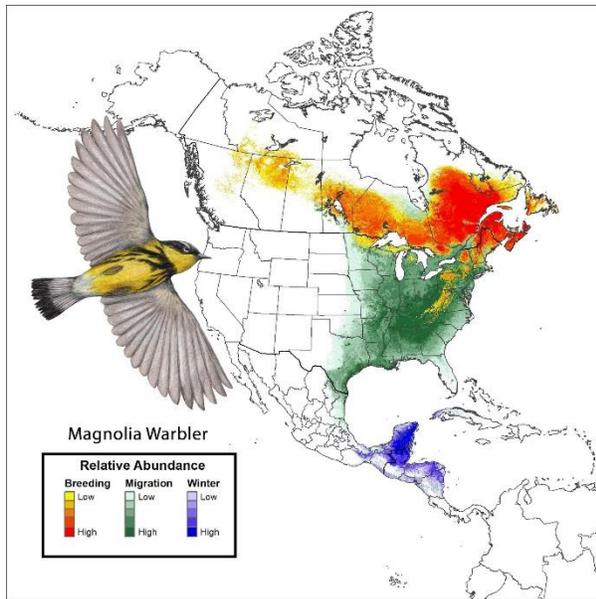
What are some of the advantages of migration for birds?

To secure a better climate for living. Most birds winter in a habitat similar to one they just left. The winter climate of the northern temperate zone would be too harsh for them to survive.

To relieve pressure on the available food supply. Bird species that are primarily insect eaters would find the food supply greatly diminished in their usual breeding areas during the northern winters. Some migratory birds even switch from primarily insect eaters to utilize tropical nectar sources. Seed-eaters, on the other hand, exhibit decidedly less migratory behavior.

To increase the available space for each breeding pair. With more territory available, less time is spent fighting to establish a nesting site or territory.

To provide genetic and evolutionary benefits. Migratory species are subject to greater ecologic diversity which promotes a greater range of adaptability than resident species. Migratory birds are tougher than non-migratory birds.



Migration Map by Cornell Lab of Ornithology

Migration routes are probably determined more by climatic change and its power to vary the food supply than by any other environmental factor. Other factors, such as orientation of mountain ranges, bodies of water, and deserts, help determine the path of migrating birds. North American species therefore migrate in a north south direction. They do so along four broad fronts or flyways known as the Atlantic, Mississippi, Central (or plains) and Pacific. Old world species migrate in an east west direction. The Golden Plover will take advantage of the abundant food supply along the maritime region of eastern Canada during the fall migration, fattening up on berries as they slowly work their way down the Atlantic flyway. They return in the spring via the Central part of the United States to their breeding area in northern Canada due to the available food supply and the

lack of food in eastern Canada. When compared with fall migration, spring migration occurs at a more rapid pace. There is much more urgency to establish a breeding territory than there is to get to their wintering area.

Some species which breed in the Southern Appalachians migrate short distances for more hospitable wintering grounds. They accomplish this by flying from the spruce-fir forests to lower elevations. Examples of birds which travel vertically are the Dark-eyed Junco, Winter Wren, Golden-crowned Kinglet, and Red-breasted Nuthatch. In a curious aside, Aristotle was aware of altitudinal migration:

“Among birds the feebler of them descend to the plains in winter when it is cold because they find the air more temperate; in summer when the plains are burning, they return to the heights.”

The length and speed of the migratory flights of birds is quite remarkable. Many songbirds fly nonstop across the Gulf of Mexico from the southern United States coast to the Yucatan. The Blackpoll Warbler journeys nonstop from New England to Venezuela in its autumnal migration. The Arctic Tern, however, is a long-distance specialist traveling from the North American arctic, to the tip of South Africa, then crosses the South Atlantic to Patagonia --- a trip of some 18,000 kilometers. Some ducks, leaving from Saskatchewan and Manitoba, made a continuous flight of around 2400 kilometers to Louisiana at an average speed of 65-80 kilometers per hour. Finches have been clocked traveling at average of 41.4 kilometers per hour.

The next issue of **Bird Notes** will talk about how birds navigate to their winter home then return to their home territory to breed.