

Be on the lookout for new visitors: Carolina Chickadees heading north!

Over the past few decades, many species have moved into New England from the south, while others have moved within New England, or changed their population numbers. Earlier posts on this blog have reported some examples, and our species inventory includes some other stories. Birds are probably the most noticeable. Many people pay attention to them, and there's lots of ways to share news of species sightings, first appearance in the spring, and so forth. With increased awareness of climate change impacts, more people are on the watch for range-shifts, and we sometimes can get "early warning" of possible new visitors or residents to our area. One of these was reported in 2014: The Carolina chickadee is moving our way.

In New England, the black-capped chickadee is a familiar and beloved sight, almost a member of the family. It is the state bird of Maine and Massachusetts, and in the winter time it's a cheery and reliable visitor to back-yard bird feeders. There are several other chickadees in North America. To the west you'll see the chestnut-backed. To the south, there's the Carolina. This little bird looks very similar to the black-cap, but it's a little lighter in color, and it has a different song — not the 2-note, piping "fee-bee" of the black-caps, but a 4-note, descending "fee-bee-bay-bay". It is closely enough related to the black cap that the two can interbreed, and at the boundary between their ranges there is a region where hybrids are fairly common.

Researchers at Cornell and Villanova studied this zone, looking at changes between 2000 and 2012. Their data indicates that this zone has moved north at a rate of 0.7 miles a year, reaching nearly to Long Island by that time. A discussion of the paper notes: "As a final step, the researchers overlaid temperature records on a map of the overlap zone, drawn from eBird sightings of the two chickadee species. They found the zone of overlap occurred only in areas where the average winter low temperature was between 14 and 20 degrees Fahrenheit. They also used eBird records to estimate where the hybrid zone had been a decade earlier and found the same relationship with temperature existed then. The only difference was that those temperatures had shifted to the north by about seven miles since 2000."

Behind the hybrid zone, naturally, come the Carolina chickadees. In a few more years, if the trend continues, we might see some changes at New England feeders, and in the New England woods. Will the Carolinas push the black-caps north? Will they overlap and co-exist? Will there be a broader and broader hybrid band? One of many stories we will see unfold over the next few years.

To read reports on this research, see <http://news.cornell.edu/stories/2014/03/warming-temperatures-push-chickadees-northward> and

http://ac.els-cdn.com/S0960982214001912/1-s2.0-S0960982214001912-main.pdf?_tid=033a56cc-af0e-11e5-936d-00000aab0f6c&acdnt=1451491222_d77af5149c86548382ee4f9c593bdeb9

To read the original paper from *Current Biology*, see

<http://www.sciencedirect.com/science/article/pii/S0960982214001341>