



Carolina Bird Club  
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# CBC Newsletter

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For members of the Carolina Bird Club, Inc., Ornithological Society of the Carolinas

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## Hickory Fall Meeting

Jesse Pope



Fall migration is incredible across the Carolinas, but one place that may not be your radar, but most certainly should be, is Hickory, North Carolina. Hickory is located in the Catawba Valley region, which is a perfect setting for exploring the foothills and mountains for fall migrants and resident avifauna. If you haven't spent much time in this region in the fall, you may be really impressed with the bird diversity. While Hickory sits at an elevation of 1,148 feet, birders can enjoy a variety of habitats up to the elevations of the High Country just a short distance away. The elevation gradient along the Blue Ridge Mountains, coupled with the interesting mountain and foothill topography in the area, host a great diversity of ecological communities that provide important habitat for both resident birds and hundreds of migrants in the fall. Hickory is no doubt a perfect setting for our fall meeting, so please make plans to join us September 18-19.

This year's fall meeting is perfectly timed to experience the peak of fall raptor migration. During the peak of the season thousands of Broad-winged Hawks can be seen in a day at several area hawk-watch sites. Many of our planned field trips will offer opportunities to experience hawk migration along the escarpment of the Blue Ridge Mountains. In addition to raptors, the Hickory area is a great launching point to seek out fall rarities such as Black-billed Cuckoo, Scissor-tailed Flycatcher, Philadelphia Vireo, Red Crossbill, and an enormous variety of fall warblers.

Who knows what may show up this year, but as previous CBC meetings in the Hickory area have proven, it's a great place for birding in the fall.

We will be staying at the La Quinta Inn & Suites Hickory, located just off Interstate 40 at 1607 Fairgrove Church Rd, Conover. Guests may reserve rooms under the Carolina Bird Club block prior to September 3rd by calling 828-465-1100. Rooms not reserved prior to this date will be released back into the hotel's general inventory and are subject to current rates and availability at the time of booking.

The hotel offers many complimentary amenities and a free breakfast buffet that includes cooked-to-order selections. Rates are \$82 (not including tax) for all standard rooms and \$97 for two-room suites. Rooms have coffee makers, microwaves and internet.

The La Quinta Inn & Suites Hickory will also be the location for the Friday and Saturday evening programs and other social events related to our meeting. A buffet dinner catered by Liazzo's Catering will be offered Saturday night, September 19, at a cost of \$23 per person. Participants should indicate if they have a dietary preference when registering.

Look for more details including the field trip schedule and descriptions in the next CBC Newsletter. Make your hotel reservations soon, and we look forward to seeing you in Hickory!

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# Why We Need The Dip

Nate Swick

Yesterday I spent a good portion of my day, between dropping my son off at school and picking him up again at the end of the day, in the low mountains of northwest North Carolina looking for a Rough-legged Hawk. It's not a life bird – I've had the good fortune to see the species farther north where's it's far more common – but it's one I'd never seen within the boundaries of my home state. And at under 2 hours away, it was close enough that I could scoot out, nab the bird, and be back in time to do the carpool dad thing at my kid's elementary school. The plan was fail-proof.

I'm not what you'd call a serious state lister, though I have unapologetically leaned that way at times. I enjoy seeing the parts of North Carolina that the quest for a respectable NC list has taken me. I've seen high-elevation spruce forests along the ridges of the Appalachians with nesting boreal warblers and the bathtub-warm waters of the Gulf Stream with its tropicbirds and impossible *Pterodromas*. I'm not a native North Carolinian, but birding the state for 10 years has given me a sense of ownership here. I feel like I could be.

Anyway, this Rough-legged Hawk has been seen intermittently on a Christmas tree farm in Alleghany County (Christmas trees being a major cash crop in North Carolina if you didn't know) for the better part of a month. It preferred a field that was out of rotation, with widely-spaced larger trees that had been spared the saw. It looked not unlike a tiny patch of northern Canada plopped on top of an Appalachian ridge. And with the temperature hovering around freezing, it felt that way too.

I had given myself 2.5 hours to find the bird before I had to head back. And so, for 2.5 hours the countdown to the dip, the missing of the bird, began.

You can sort of chart your attitude as the time passes on and the bird remains unseen. I tend to start these things full of unearned enthusiasm, which eventually gives way to crushing resignation as the time comes and passes with nary a sign of your target. Finding a great bird, or even seeing a great bird, is a high that

we birders know well if we're lucky. But the yin to its yang, the dip, is one that is too often quietly filed away. Blamed on the weather or the tide or the bird simply moving on. Most of the time it's just a matter of luck. Either good or bad. And what are you going to do about that?



For me, the time came and the bird didn't. My time was for naught, from a state list perspective. But it wasn't a waste. I tallied a few new county ticks. I watched a few Common Ravens wheel around in the north wind. I gained a new appreciation for the Christmas tree farm as habitat. I traveled to a part of the state that many, if not most, of my fellow North Carolinians, will never see. I attempted to mask my frustration in this bit of writing (successfully? Maybe.)

My point being that the ticks are what we live for, but the dips are important. We hate nemesis birds, but we love them too, because it just feels so good to finally connect with them. One of these days I'll probably see a Rough-legged Hawk in North Carolina, and it will be all the more satisfying because I missed this one.



The Newsletter and The Chat are online on the CBC website, and you can elect either electronic or paper delivery. The most recent electronic editions of each are only accessible to CBC members.

To access the "members only" content, you must first create a login and password. This can be done at the Member Services page at:  
[http:// www.carolinabirdclub.org/members/](http://www.carolinabirdclub.org/members/)



# What Makes The Feather Soar

Steven Powell



Dinosaurs may have gone extinct some 66 million years ago, but that's hardly the end of their story.

One group of their modern-day progeny, the class *Aves* - namely, birds - is a spectacular evolutionary success story. With more than 10,000 species, birds occupy every manner of ecological habitat worldwide.

A unique source of avian adaptability is the feather. Not only are feathers the basis of one of the "killer apps" of evolution, powered flight, they can also provide camouflage, attract mates, protect from the elements and serve as a means of regulating body temperature.

And as Matthew Greenwold, a postdoctoral associate in the Department of Biological Sciences at the University of South Carolina, showed in a recent paper, a key to the feather's success appears to be the variety and adaptability of the interlocking protein building blocks that feathers are made of.

## Feathers and Dinosaurs

It's now largely (but not entirely) accepted among biologists that dinosaurs are the forerunners of birds, Greenwold says, and that certain species of dinosaurs began to evolve feathers about 150 million years ago. The idea has taken some time to take root, in part because most early dinosaur fossils lacked accompanying evidence of feathers.

A lack of feathers in the fossil record was not necessarily an indication that the two didn't go together, however. Perhaps feathers don't fossilize as well as bone. More recent discoveries, particularly in China over the past 15 years, provided a wealth of evidence of feathered dinosaurs that convinced many skeptics.

But how did that original feather come about? And how did it result in such diversity among our feathered friends? As it turns out, there's a major family of protein building blocks largely responsible, beta-keratin.

Beta-keratin is found in just two existing groups of animals: reptiles and birds. It's the stuff of claws,

scales, beaks and feathers. It's what makes these epidermal appendages strong, tough and, in the case of feathers, also flexible and elastic.

Greenwold's co-author and postdoctoral adviser, professor Roger Sawyer, has spent over 30 years working with beta-keratin, and his work has helped differentiate among what has turned out to be many variations, some very subtle, on a main theme in beta-keratin.

## Beta-keratin or Beta-keratins?

"When I first started out, I really thought that feathers of all birds would have pretty similar beta-keratins," Sawyer says. "If I extracted feather protein from a chicken and then from a zebra finch, they'd be the same. Well it is far, far from that."

In the 1980s, Sawyer and colleagues showed that there is a core region, 34 amino acids long, that is highly conserved among all beta-keratins and forms a structural filament. His work was also instrumental in helping scientists understand the diversity of several major subtypes of the protein, typically named after the anatomical part from which it was first isolated. These include scale beta-keratin, claw beta-keratin and feather beta-keratin.

They're very similar - all have the common filament core of 34 amino acids, for example - but the proteins are distinct as well. Feather beta-keratin is about 100 amino acids long, with scale and claw being longer still. The amino acids on either side of the filament core are similar, but serve different roles and are not as highly conserved as the central 34 amino acids.

Despite the monikers, the scale, claw and feather beta-keratins are all mixed in varying amounts in all of the avian epidermal appendages. And at this point, it might have appeared that the broad strokes of the feather structure had been defined: There are a handful of basic types of protein that go into it, and it's just a question of amounts and how they're arranged.

But the truth turned out to be much more complicated still. As was shown in 2004 when the chicken genome

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# What Makes The Feather Soar

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was published, chickens have numerous copies of the scale, claw, and particularly the feather beta-keratin sequences in their genome. And the “copies” are not really identical, either. On just one of the chicken chromosomes, for example, there are more than 60 feather beta-keratin genes, each very similar to each other but not quite the same. These genes make up the second-largest gene family in the chicken genome.

## A Flock of Genomes

And as part of the international team that recently published full genomes of 48 birds in *Science* magazine, Greenwold and Sawyer showed that the number of scale, claw and feather beta-keratin genes is highly variable among all birds. So depending on the regulation of protein expression, the feathers that the proteins constitute must be made up of a very complex mixture of building blocks.

Instead of just one brick, beta-keratin, it turned out that there were several types of brick, including scale, claw and feather beta-keratin. And instead of just several types of brick, it turned out that there were dozens of smaller variations within each type of brick, represented by the many slightly differing copy numbers in the gene.

Greenwold, graduate student Weier Bao, and Sawyer analyzed the avian genomes and published an accompanying paper in *BMC Evolutionary Biology* that shows correlations between the number of beta-

keratin gene copies and the birds’ lifestyles. Birds of prey, for example, have larger proportions of claw beta-keratins than the average for the entire group of birds.

## Feather Beta-keratin and a Unique Avian Advantage

The unifying theme, though, is the abundance of feather beta-keratin genes, which make up more than 50 percent of the copies of the several beta-keratin subtypes in all the birds studied. Sawyer and Greenwold made the case in an earlier paper that the expansion and elaboration of the feather beta-keratin gene coincides with the evolution of the feather itself, from a simple body covering to a sophisticated assembly of interconnected working parts that make powered flight, among other competitive advantages, possible.

Feather beta-keratin distinguishes birds from all other living creatures. Birds are the only organisms that have it, they have it in abundance, and together with the other keratins it gives them an edge that makes them nearly ubiquitous in a highly competitive world.

“Feathers are strong, they’re flexible, they’re durable,” Sawyer says. “They can go through a 200-mph dive and sudden recovery without fracturing, such as seen for the Peregrine Falcon, the fastest member of the animal kingdom. Perhaps we can mimic these amazing properties in new materials.”

## North Carolina Bird Records Committee Accepts Term Limits

The CBC Executive Committee recently voted to create term limits for the positions that make up the NC Bird Records Committee (BRC). The by-laws of the NC committee were amended to define terms as lasting three calendar years with a mandatory one-year break. BRC members may serve unlimited terms so long as the one-year break is taken between each term. In order to allow for continuity, and to ensure that members with significant knowledge and experience are able to provide valuable input, two non-voting ad-

visory positions were created. As a result of these changes, Susan Campbell, Simon Thompson, and Michael McCloy take positions on the BRC, while Ricky Davis and Harry LeGrand Jr. assume advisory roles.

While the NC and SC BRCs are both organized under the CBC, the SC BRC opted not to accept a mandatory break in service, and thus members of the SC BRC may serve with no limit to the length of their terms.



# CBC Texas Trip Report

Ron Clark

Eight of us started for the Gulf Coast from San Antonio early Saturday morning, staying off the

interstate so we could stop anytime. It took less than two hours for Crested Caracara to become a trash bird, after seeing over thirty. We totaled over 80 for the trip. We birded our way to Rockport, stopping anywhere that looked interesting, picking up White-tailed Hawk, Golden-fronted Woodpecker, and White-tailed Kite along the way. We birded Aransas National Wildlife Refuge, where we saw our first two Whooping Cranes, and Goose Island State Park in the evening.

On Sunday morning we took a boat into Aransas Bay. Each bit of land or channel marker was covered with shorebirds, waders, gulls and terns. We got great comparative looks at Double-crested next to Neotropic Cormorant. The Whooping Cranes started showing up after 45 minutes out. We saw 17 total, including one juvenile. Several Long-billed Curlews were present also. After lunch, we headed south to Port Aransas. Just before the short ferry ride over, we noticed a falcon, so we pulled over. Then we saw a Great Horned Owl perched high on a hydraulic shovel, being bombarded by the Peregrine Falcon. A second falcon showed up and we watched for several minutes as they swooped on the owl. No contact was made, as I think they are smart enough not to tangle with a Great Horned Owl. They take no prisoners!

We birded the jetties and a couple of other nearby sites, adding White-faced Ibis and 55 Roseate Spoonbills to our list. A Greater and a Lesser Yellowlegs fed next to each other for a nice comparison. We finished our second day with 106 species.

The plan for the next morning was to drive the back roads below Kingsville, looking for the goose flock, with Snow, Ross's and Greater White-fronted. The weather had a different plan as we awoke to fog. We looked anyway and found many Sandhill Cranes but there was no watching the fly-out. We did find our first Pyrrhuloxias, a pair next to the road, and several of the dozens of Green Jays we would see. Sarita Rest Area is always a good stop. Brewer's Blackbirds are

almost guaranteed. As we walked, someone noticed that one bird had red eyes. It was a Bronzed Cowbird, a nice treat.

On the road, we found our first Harris's Hawk and a barnyard filled with Snow Geese. We looked for a while and found one Ross's. Mary's Café in Rio Hondo is a great stop on the way to Laguna Atascosa NWR. After lunch, we drove around town a bit and found two Curve-billed Thrashers and a Couch's Kingbird. At the refuge, a Sora and a Least Grebe were in one of the ponds. Six Greater Roadrunners were seen along the road to the Visitor's Center. Vermillion Flycatcher and Long-billed Thrasher got us to 126 species by the evening, as we finished our day on South Padre Island.

Sabal Palm Audubon Sanctuary is a great place to start any morning. A Great Horned Owl was sitting on its nest right outside the new Visitor's Center. Buff-bellied Hummingbird was found at the feeder. Some other birds were Great Kiskadee, White-tipped Dove, Altamira Oriole and a distant, back-lit Gray Hawk perching. There had been a Dusky-capped Flycatcher seen along one trail, and luck was with us as we found it. There's a good area along Highway 100 for Aplomado Falcon. We went there in the afternoon and as we were parked, a car pulled up. It was a couple we had met on the crane tour. They said the birds were about ½ mile back. So we went back and there were a couple of birders with two falcons in sight. We got great looks for 15 minutes. At dusk, we drove to Oliviera Park for the Red-crowned Parrot insanity. With soccer practice going on next to us, the parrots were as raucous as they usually are. It was a nice ending for our day, putting us at 138 species.

We started Wednesday with a second visit to Resaca De la Palma State Park. A Tropical Parula was being seen near the parking lot and our visit here yesterday was a bust.



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# Texas

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While there, Black-throated Gray Warbler, Black-headed Grosbeak and Lesser Goldfinch were added. Plain Chachalacas were vocal in the woods, but the area was off-limits. The couple we kept running into were searching also. After an hour, we needed to go and all loaded in the van. Then we noticed the man running to get his wife. I yelled, "Everybody out", which was the fastest we had unloaded so far. We hurried over to where he had been and in a couple of minutes, the male parula made a brief appearance. There was a female also. Most of us saw one of them, before they moved back into the brush.

We made a wrong turn going to Santa Ana NWR. While correcting, we found about 20 Black-bellied Whistling-Ducks, a power line full of White-winged Doves and a few Inca Doves as well. Sometimes mistakes work out. The refuge got us good looks at Plain Chachalacas, feeder birds, as well as our first Ringed Kingfisher. After lunch, we went to Estero Llano Grande State Park. Two Tropical Kingbirds were perched on the line as we got out. One or two Common Paraques roost yearly along one trail. A better look cannot be found, at less than ten feet. Cinnamon Teal and Northern Beardless-Tyrannulet were added. A Gray-crowned Yellowthroat was being seen in the park. We couldn't locate it but were told that mornings were better. Another excellent bird being seen there was a White-throated Thrush, although it had not been seen for two days. We found five Clay-colored Thrushes, but not the rarity. Two days later, it showed up again. Such is birding.

Thursday morning we were, you guessed it, back at Estero Llano. As we walked to the area, I saw a bird fly into the grass. A birder there said that was the yellowthroat. We could see it moving along in the grass, getting pretty good looks. Then the bird gods smiled on us and it flew into a small, bare tree about 15 feet away at eye-level and stayed for two minutes. We couldn't have asked for better looks. Other stops through the day got us Black Phoebe, Olive Sparrow, and Monk Parakeets at their nest. Our dessert was watching over 100 Green Parakeets along a busy street in McAllen, including one all-yellow bird. They were perched on the wires with over 1,000 Great-tailed

Grackles and European Starlings. All were vocalizing, making quite a symphony. Species total was at 168.

We then started west toward the streets of Laredo, with several stops along the way, in small towns with the names of Salineno, Roma, San Ygnacio and Zapata. Salineno has a great feeding station. We stayed there for a couple of hours, watching Ladder-backed Woodpeckers (five feet away), Altamira and Hooded Orioles, Olive Sparrows, Inca and Common Ground-Doves and Green Jays. There was also a juvenile Cooper's Hawk that cleared the area a few times with no culinary results. Someone found an Audubon's Oriole; much tougher than the others. It was behind us so we went back to get good looks. A Zone-tailed Hawk was found soaring over the Rio Grande, on the Mexican side. We took a side road after leaving and found Cactus Wren, Black-throated Sparrows and six Pyrrhuloxias. A Bewick's Wren was added later. As we turned a corner in Laredo, two Chihuahuan Ravens flew up from the roadside. They were species 179.

Saturday morning included a search along the Rio Grande for White-collared Seedeater, which we did not find. We had seen several Ringed Kingfishers, but had missed the diminutive Green Kingfisher. Standing at the river, we saw two, on the other side, out of ABA territory. After about 20 minutes, each one flew across several times, so it was official. A park near town got us Eared Grebe and an unexpected Western Grebe. After stopping a few times on the drive back to San Antonio, we finished the trip with 185 species. Life birds ranged from the fifties to the low eighties. I even picked up two. One participant who had set 50 for a goal, finished with 82. Someone else deemed him an overachiever! It was a great group of folks to take, with lots of laughing all along the way. Our biggest miss was the seedeater, not an easy bird, but the Gray-crowned Yellowthroat more than made up for it.

Thanks to the folks who came and made it such a great trip!



# Welcome New Members!

The Carolina Bird Club warmly welcomes the following new members:	Gail Capel Oak Island, NC	Brenda & Monty Combs Wilkesboro, NC	Adele Ray Pittsboro, NC	Mac, Mickelle, Marley, Jack & Calliope Williams Hartsville, SC
Joe Thomas Round O, SC	Tracie Jeffries Valdese, NC	Sue & Jerry Monahan Hillsborough, NC	Cynthia Lenhart Saluda, NC	Mary Ann, Chuck, Melissa & Reade McBride Raleigh, NC
Thomas & Stephanie Piness Summerville, SC	Ed & Marcy Blich Charleston, SC	Nancy Stubbs Summerfield, NC	Chris Pruitt Charlotte, NC	
Debra Hausrath Fort Thomas, KY	Michelle Combs Candler, NC	Patricia Lipsey Asheville, NC	Peter Stollmack Charlotte, NC	Juan, Carolina, Isabella, Nancy & Luis Ortiz Fayetteville, NC
David Kirk Easley, SC	John DeLaughter Johnston, SC	Jo-Ann Close, Austin Morrissey & Shea Qusshie Edisto Island, SC	Jim & Eileen Capel Durham, NC	Joyce Birkenholz Asheville, NC
Robert Rybczynski Cary, NC	James & Tina Perruquet New Bern, NC	Beth & Fred Schultz Oriental, NC	Joyce Birkenholz Asheville, NC	Jim Buschur and Ginny Hill Greenville, SC
Marcia Mandel Durham, NC	James Gould Kill Devil Hills, NC	Michael Saunders Hampstead, NC	Ray Cox Anderson SC	Mary Leet Waxhaw, NC
	Jan & Tana Weber Raleigh, NC		Gordon Warburton Marion, NC	Nancy Devine Williamston, SC

## Grant Provided for Avian Research

The Carolina Bird Club makes grants available for various work pertaining to birds, habitat, and conservation in the Carolinas.

Recently the CBC Grant Committee awarded a grant in the amount of \$2,386.83 to Kristen Oliver at Coker College in Hartsville, SC. The grant's purpose is to assist in Kristen's research on the bacterial growth inhibition ability of uropygial gland secretions of passerines based on foraging behavior.

The CBC Grants Committee meets quarterly to review applications for grants that fall in to one of two categories, research and education or conservation. Individual projects may include student research, secondary school programs, and conservation.

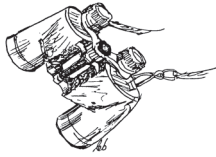
For more information on obtaining a CBC grant, visit [www.carolinabirdclub.org/grants](http://www.carolinabirdclub.org/grants).

## Did You Know?

The Carolinabirds mailing list turned 18 years old in December. From its beginning with 17 members in 1996, the list now provides bird and birding information to more than 1,300 subscribers. Carolinabirders hail from seven countries and 30 states plus the District of Columbia. Approximately 61% of the subscribers live in North Carolina, and just under 20% in South Carolina!

## CBC Spring Election

Note that the results of the CBC annual election were not available at press time. As a result, the officers noted on the back cover reflect the composition of the CBC Executive Committee as it existed prior to the election. For the current make-up of the Executive Committee, please refer to the CBC website and click on "About the Club" and "Executive Committee", or navigate to [http://www.carolinabirdclub.org/exec\\_comm.html](http://www.carolinabirdclub.org/exec_comm.html)



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**Upcoming CBC Meetings**

Fall 2015 - Hickory, NC  
 Winter 2016 - Litchfield, SC

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Deadlines for submissions are the 15th of December, February, April, June, August, and October.

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