A VISIT WITH CHARLES, A TALK ABOUT CHICKADEES

by John C. Kricher

The evening had begun routinely enough. I was sipping some really good scotch, a Christmas gift from a more than average friend. The scotch had all of the benefits that years bring to whiskey. If it were human, it would be well through puberty and into serious dating. I felt privileged to help it come of age and shortly thereafter went to bed.

For some reason sleep was elusive, and I soon found myself walking to my study. Perhaps reading a scientific paper or two would help me sleep. I've always thought that many journal articles would make fine anaesthetics in times of surgical emergency. Just have the patient read something like "A Morphological and Phylogenetic Analysis of the Possible Significance of the Epicondyle-Opisthotic Complex in Synapsid Postcranial Development," and it's off to dreamland. But don't read it aloud lest the surgeons join the patient.

Upon entering my study, I saw my cat Ben sleeping on my favorite chair. What was unusual about this vision was that Ben wasn't alone. He was sitting in Charles Darwin's lap, being petted by a guy who died over a hundred years ago. Darwin looked good considering his age and physiological state. In fact, he looked pretty much like his pictures: long beard, bald head, very deeply set, penetrating eyes, protected by strong brow ridges. His face was serious but friendly, not unlike an intellectual version of Santa Claus. He seemed like a nice guy. Darwin looked up, saw me, and I could tell from his expression that he felt he owed me an explanation. What follows, best as I can recall, is our conversation.

CD: You have a nice cat. What's its name?

JK: Ben. Are you Charles Darwin?

CD: Remarkable you should recognize me so easily. I am Darwin's ghost.

JK: I don't believe in ghosts. At least I don't think I do.

CD: Talk to Shirley MacLaine if you have doubts. I've not time to discuss it. She's right, you know. We've all led many lives. You were once a *Mesopteryx*. It probably accounts for your interest in birds.

JK: I don't think I've ever heard of a *Mesopteryx*.

CD: No, you haven't. No one has. You were a member of a species that evolved directly from *Archaeopteryx*, in the Jurassic, and looked much more like a so-called modern bird. You know, short stiffened tail, large wishbone and flight muscles, strengthened backbone. You were a fine flier. Teeth were largely gone. Quite fancy plumage. You looked far less similar to the dinosaurs from which you evolved than did *Archaeopteryx*. Unfortunately, you left no fossil record.

JK: My oversight. I'm not a good journal writer.

CD: Bird evolution has always been a particular passion of mine, ever since I came to appreciate those odd little finches I saw on the Galapagos. I've got John Gould to thank for that, you know. You surely have heard of Gould -- great artist, capital ornithologist. He worked with all of my bird specimens from the *Beagle* journey, especially the finches. I never did pay much attention to the little beggars whilst on the islands. I did notice the Galapagos Mockingbirds and thought it curious that they depart from one another in form so slightly from island to island. But Gould put me on to the uncanny similarities among the finch group, which, at the same time, demonstrated such divergencies. And, do you know that Gould used Captain FitzRoy's specimens? Mine were not sufficiently labeled to be of much use. Poor old fundamentalist FitzRoy. He still isn't speaking to me. They call them Darwin's finches. Bloody things ought to be called FitzRoy's finches.

JK: May I ask a really basic question? What the hell are you doing here?

CD: I am pleased to tell you that I do not reside in hell. Frankly I was a bit surprised, though pleasantly. But to address your inquiry, I've come to read *The Auk*. I do enjoy remaining familiar with evolution work. Have you seen the two lead articles which deal with your parids, the Black-capped and Carolina chickadees?

JK: Let me see if I understand this. You're here to read my *Auk?* And yes, I read the chickadee papers.

CD: I've read your journals often in the late hours, more so than you, I dare say. What do you make of the hybrid zone between the Black-capped and Carolina chickadees? Does it invalidate their status as separate species?

JK: I'm actually talking to Darwin about evolution. This is big! I take it you mean the southwestern Missouri contact zone. Yeah, I read that paper. Seems like complete mixing between Carolinas and Black-caps over a fifteen-kilometer strip between the Great Plains and the Ozark Plateau. Lots of intermediate type birds, hybrids both in plumage and voice. Nothing to indicate that they are separate species, at least not in that area. It's gonna raise havoc with the Christmas bird count. Guess they'll have to settle for "chickadee sp."

CD: What is a species?

JK: Well, you ought to know, you wrote the damn book. You called it *On the Origin of Species.*

CD: The title continued, *by Means of Natural Selection or the Preservation of Favoured Races in the Struggle for Life*. I was never totally sure what a species is. I thought that varieties, subspecies, races, and species all were part of a gradual process, the process of evolution. I believe I still hold to that view, though I am aware of the importance of assigning an organism a distinct species identity. I am frankly somewhat surprised that it is so easy to do,

given the power of evolution. Examples like the Missouri chickadees please me immensely.

JK: Yes, hybrid zones are the exceptions that prove the rule, *your* rule in fact. Flickers hybridized extensively and lost their species status. So did orioles. The birders are still bent out of shape over that one. All the Dark-eyed Juncos were consolidated into one species. God, and presumably you, only know what a Thayer's Gull is. Hybrid zones clearly show evolution actually happening. If every bird could easily be placed in a given species, evolution would be much more doubtful as an explanation for patterns of life on earth. It's the messy cases that support your theory.

CD: Theory? At this point I prefer fact. And don't waste your time looking for Thayer's Gulls. Does this Missouri hybrid zone mean that the Black-capped and Carolina forms of chickadee will be considered subspecies and not species? I believe you refer to such a practice as lumping. Am I not correct?

JK: Imagine the Massachusetts state bird lumped with a rebel chickadee? Probably rename it "Common Chickadee." Certainly couldn't call it "Northern Chickadee." We'd have another civil war. You'd have more than the ABA to deal with if that happened. No, actually I don't think they'll be lumped. There are many areas where Carolinas and Black-caps coexist and don't interbreed. I guess they'll continue being considered separate species. It's a potentially tricky problem though. And to add to it, you know, Black-caps and Carolinas are very similar genetically, as, indeed, are many species of birds.

CD: Yes, I've just completed reading that paper on the close genetic distances between the chickadees. I knew so little of genetics. It's still a struggle for me to comprehend it all. I only wish I had drawn Mendel's conclusions. I take it that although the Black-capped and Carolina chickadees share the vast majority of their genes, they still may be regarded as separate species?

JK: That's true. Many bird species show close genetic distances, but no one doubts that they are separate species. This is because they are reproductively isolated, the factor that is now believed most important in conferring species status. Look at the *Empidonax* flycatchers, for instance. Voice keeps them from interbreeding, and voice can be influenced by just a few genes. Consider humans. We share ninety-nine percent of our genes with chimpanzees, but look at the differences between us and chimps. There is no way a human and a chimp could mate and produce a fertile, healthy hybrid, in spite of our genetic similarities.

CD: I would very much enjoy sharing that chimpanzee information with Queen Victoria. She was appalled by my theory, as it applied to human origins. I believe that is why I was never knighted, at least that's what my many biographers say. If only the old girl could know what commonalities lie in those

coiled DNA molecules. I say, this conversation has been both pleasant and insightful, but it is late, and I must go.

JK: Why not stay till dawn? Lots of chickadees come to my feeders.

CD: Thank you, but no. I wouldn't know what to call them.

Author's postscript: The papers that Charles and I discussed are in *The Auk*, volume 103, October 1986. They are "Morphological and vocal variation across a contact zone between the chickadees *Parus atricapillus* and *P. carolinensis*" by M. B. Robbins et al., pages 655-666, and "Extensive protein similarity of the hybridizing chickadees *Parus atricapillus* and *P. carolinensis*" by M. J. Braun and M. B. Robbins, pages 667-675.

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HELP TO MONITOR BOSTON'S PEREGRINES

The Massachusetts Division of Fisheries and Wildlife is seeking part-time volunteers to assist in monitoring Peregrine Falcons in downtown Boston in the spring of 1987. Following the release of six eyasses in both 1984 and 1985, a territorial pair appeared in downtown Boston in early 1986. Although it is believed no nesting occurred in 1986, it is anticipated that nesting is quite likely to occur in 1987.

Interested persons should be available for at least three or four hours per week between March 1 and June 30, 1987. Some knowledge of birds and of the Peregrine Restoration Program in particular is very helpful but not essential. Activities will involve monitoring and recording the behavior of the Boston Peregrines. Work will be in the urban setting, but the exact working details will depend to some extent on the birds themselves and cannot be predicted at this time.

For more information contact Dr. Thomas W. French, Assistant Director for Nongame and Endangered Species, MDFW, 100 Cambridge St., Boston, MA 02202 (tel: 727-3151) or Brad Blodget, State Ornithologist, MDFW, Field Headquarters, Route 135, Westboro, MA 01581 (tel: 366-4470 or 727-2864).

FIELD PROBLEM: NORTHERN VERSUS LOGGERHEAD SHRIKE

by James Baird

If there were only one species of shrike, birders would have an easy time of it, for shrikes, in the generic sense, are easily identified. Shrikes are not sociable, and one is usually seen sitting alone in a tree top or on a telephone wire, occasionally flicking its tail, which is otherwise held nearly horizontal to the ground. In flight, a shrike can be recognized by its quick (almost fluttery) wingbeat and its low undulating flight that ends with an upward swoop to its perch. Or perhaps you'll note a robin-sized bird hovering over a field or bush or engaged in a persistent chase of another usually smaller bird -- chances are this too is a shrike. Identification is cinched when a closer look reveals a grayish or brownish bird with dark mask, wings, and tail. But shrikes can be an identification problem since in North America there are two species: Northern Shrike *(Lanius excubitor)* and Loggerhead Shrike *(L. ludovicianus)*.

Northern Shrike. The Northern Shrike is widely distributed throughout much of the north temperate zone. There are fifteen races of *L. excubitor* in the Old World, occupying a wide range of habitats from Scandinavia to Siberia, south to Spain and India. In North America there are only two subspecies of Northern Shrike, which unlike the Old World populations do not occupy widely diverse habitats but are narrowly restricted to the open forests and bogs of northern Canada and Alaska. The western race, *L. e. invictus* differs from the eastern race *L. e. borealis* by being larger and paler.

Loggerhead Shrike. Unlike the Northern Shrike, the Loggerhead is endemic to North America, and its nine subspecies range from the Canadian prairies and New England south into Mexico. *L. l. migrans* is the race that occupies the eastern half of North America, but it cannot be distinguished, except in the hand, from the other races. Throughout this extensive range, the Loggerhead is restricted to essentially treeless open country.

Occurrence in Massachusetts. Since this note was originally prepared, there has been a significant change in the occurrence of Loggerhead Shrike in Massachusetts although the few recent reports still fall within the same time frame as past occurrences. There has been a gradual but steady decline in the northeastern population for more than a decade. The reason(s) for this decrease remain unknown.

The Loggerhead species was never common in Massachusetts and has always been a "rare" breeder in the state, most recently in 1971. It was a rare spring migrant with most occurrences falling between mid-March and mid-April. The few spring reports of recent years have fallen within this same period. However, the major change has been in its fall occurrence. Twenty years

ago, Loggerhead Shrike was an uncommon but regular coastal migrant from mid-August to mid-September. In 1968 alone, no fewer than nineteen Loggerhead Shrikes were noted during this time period in Massachusetts, two of which were inland. At that time occasional Loggerheads would linger into winter. The most recent such occurrence was a bird at Salisbury in 1979 which was present from September until at least late December. In recent years, three Loggerhead Shrikes during fall migration would be termed an excellent season.

On the other hand, the occurrence of Northern Shrike has remained unchanged during the past two decades. They are present from November to April with numbers fluctuating each winter. Unlike the Loggerhead, Northern Shrikes are as likely to be seen inland as along the coast. Many of these are immatures with varying amounts of brown replacing the gray plumage. In years when flights occur, individuals may appear as early as mid-October, but in any year Northern Shrikes are seldom encountered after mid-April.

A Summary Comparison.

Size. Northern is *larger*; average wing chord length is 112 mm. Loggerhead is *smaller* (25.4 mm shorter); wing chord length is 96.5 mm.

Color. Northern adult is *pale* gray with blackish mask, wings and tail; *immature is brownish* with dark brown mask, wings, and tail. Loggerhead *adult and immatures are alike -- dark* gray with black mask, wings, and tail.

Bill. The bill of the Northern Shrike is *long* (average is 18.7 mm) and blackish with a light base to the lower mandible. The bill of the Loggerhead is *stout* (average is 15.5 mm) and all black.

Mask. In the adult Northern, the black mask extends from the base of the bill to the ear covert; in the immature, there is a dark brown mask only behind the eye. The Loggerhead has a black mask from the base of the bill to the ear covert *and it extends across the lower forehead.*

Barring on underparts. The Northern adult has *fine wavy barring* on whitish underparts that is usually obvious but sometimes nearly absent; the immature has conspicuous fine wavy barring on brownish-white underparts. *Barring is absent* in the adult Loggerhead; the immature may have fine wavy barring on the breast and sides.

White markings. These are reduced or dulled in the Northern Shrike whereas the Loggerhead has larger and highly contrasting amounts of white with nearly twice as much white in the tail.

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