Review of *Swallow Summer* by Charles R. Brown

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There are increasingly two types of professional modern biologists. One likes to subdivide and macerate the organism being studied into its smallest possible components, preferably to the size of molecules, and asks questions that are largely chemical in nature. Such biologists work in high-tech, air-conditioned labs, get grants large enough to match their egos, and dream of Nobel Prizes. They go to work in nice clothes and even nicer cars, rarely leaving the city limits. The other, increasingly rare, type likes to study an organism in the context of its broadest environmental components, preferably the size of its ecosystem, and asks questions that are largely evolutionary in nature. These biologists work under all possible environmental conditions, struggle with tiny grants or none at all, and dream of understanding the species they love just a little better. They go to work in grubby clothes, drive battered field vehicles, and enter city limits as rarely as possible. Charles Brown is one of the latter.

Brown first appeared at Cedar Point Biological Station in western Nebraska in the early 1980s, bringing with him a West Texas accent, cowboy boots, and a steely determination to learn all he could about the biology of the cliff swallow, especially the reasons for its high level of coloniality. Living in groups has both benefits and costs for any species, and often the
advantages barely outweigh the drawbacks. Now, nearly twenty years after the start of his studies, Brown has a keener sense than any other living ornithologist of what these costs and benefits are for at least one species. Each summer he, his wife Mary, and three or four undergraduate volunteers capture, measure, and band up to about 10,000 cliff swallows. They also follow the fates of thousands of nests, learning more about the private lives of cliff swallows than has anyone in history.

Brown recruits a new batch of undergraduate volunteers each winter, mostly young women from upper-class colleges in the East, many of whom have never ventured west of the Mississippi, and some of whom have never had to deal with outdoor facilities or with even none at all. They arrive neatly scrubbed in well-ironed if not designer clothes. Two months later they return home, their clothes stained with countless swallow droppings and Nebraska mud, their skins well tanned and sometimes marked with chigger bites. But they also take away a new sense of self-confidence, an intimate knowledge of the joys and heartaches of field biology, and the potential of becoming great biologists themselves.

This is the story Brown relates, based on a single summer at Cedar Point Station, and with as much emphasis on the diverse personalities of his assistants as on the methods he uses for prizing out the secrets of social life among cliff swallows. For him, one of life's great joys is recapturing individual swallows initially marked as nestlings which have since traveled back and forth between the Amazon Basin and Nebraska twice a year for a decade or more. He is equally saddened by the loss of any of these familiar birds, as sometimes occurs during prolonged periods of wet, cold weather, causing mass starvation, especially among those individuals only slightly less fit than others. Identifying the elusive sources of such Darwinian natural selection, including even (as he has most recently discovered) such small genetic variations as those causing minor asymmetries of wing and tail lengths of individual birds, produces a story worthy of a Sherlock Holmes mystery, complete with the deductive reasoning and accumulating of evidence needed for discovering the truth.

This book is a narrative follow-up to the technical monograph Charles and Mary Brown wrote earlier on cliff swallow coloniality; like other technical monographs it covered "just the facts." Swallow Summer offers the human story behind the avian one and might cause even a molecular biologist to wonder if the right turn in the road was chosen much earlier in his or her career. Paul A. Johnsgard, School of Biological Sciences, University of Nebraska-Lincoln.