**Austin R. Spence, Ph.D. Ecology and Evolutionary Biology**

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**Statement of Qualification**

I will be a postdoctoral scholar with Dr. Daniel Karp at the Department of Wildlife, Fish, and Conservation Biology at the University of California, Davis specializing in avian ecology beginning in January 2022. I have conducted scientific research with birds for the past six years during my Ph.D. in Ecology and Evolutionary Biology at the University of Connecticut. While in graduate school, I was trained under Drs. Morgan Tingley and Christopher Clark in capture, handling, and husbandry of hummingbirds. Additionally, I was taught by Master Bander Christopher Clark and David Rankin in hummingbird banding.

This training culminated in my Ph.D. work focusing on field avian ecology. For 6 years, I worked with hundreds of Anna’s, Black-chinned, Rufous, Allen’s, and Calliope hummingbirds in the Sierra Nevada mountains of California. My duties entailed capture of hummingbirds, retrieval from the nets, standard morphological measurements (including primary feathers, tarsus, culmen, and tail measurements), sexing, feather sampling, fecal sampling, and blood sampling. My Ph.D. focused on monitoring metabolic rates during the nighttime, and I was responsible for the bird safety while in metabolic chambers for up to 12 hours by using modern hummingbird husbandry techniques. During the summer of 2018, I completed a long-term housing experiment with Anna’s hummingbirds that included both transportation and housing of hummingbirds at 12,500 feet above sea level. Through this experiment, I became proficient in monitoring long-term health signals and hummingbird husbandry. Finally, I am proficient in euthanasia techniques (thoracic compression, CO2, and isoflurane) as well as subsequent dissections for scientific data and natural history collections.

Though extracting and operating Hall nets is quite similar to mist nets, I will be training during October through December of 2021 to acquire additional mist-net training before the commencement of this project. Specifically, I have arranged to accompany colleagues from the University of California, Los Angeles and Occidental College at least 10 times over the next three months to be trained in proper procedures. Most of the training will focus on mist-net setup and bird extraction as I already have extensive experience handling birds, extracting blood and fecal samples, and taking morphological measurements.

**Current Experience**

University of Connecticut

Ph.D. program in Ecology and Evolutionary Biology

Aug. 2015 – May 2021

**Capture Techniques**

Hall Traps

~ 200 Anna’s hummingbirds (*Calypte anna*)

~ 150 Calliope hummingbirds (*Selasphorus calliope*)

~ 60 Black-chinned hummingbirds (*Archilochus alexandri*)

~ 30 Rufous hummingbirds (*Selasphorus rufus*)

~ 30 Allen’s hummingbirds (*Selasphorus sasin*)

**Sampling and research techniques**

Standard morphometrics, including wing, culmen, tail, adult fat

Overnight metabolic sampling in metabolic chambers

Blood sampling via claw

Organ sampling via dissections

Fecal sampling

Feather sampling

Age and sex identification

Euthanasia (thoracic compression, CO2, isoflurane)

Museum preparation (round skins, flat skins, skeletonization)

**Banding experience**

Taught under Master Bander Christopher Clark

Approximately 200 hummingbirds