

Uncovering Willard Ellery Treat

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Biography: Willard Ellery Treat

The Biology Department at Radford University has a vast set of specimens collected over the years. Of that collection, Willard E. Treat contributes a small, but significant part. Born almost a century and a half ago, there is little known about him and why his collection ended up at Radford University. However, his specimens are still important to natural history, especially here at Radford.

Willard Ellery Treat was born on July 31, 1865 in East Hartford, Connecticut, where he resided most of his life (U.S. Federal Census, 1870). His father, Ellery Treat, worked in East Hartford as a bookmaker, while his mother, Eunice, was a homemaker. According to the 1870 Federal Census, Willard had a sister, Adella (“Della”) G. Treat as well. Although, the Census did not indicate other siblings, he also had two brothers, William Howard Treat and Edwin Cuyler Treat (Warner, 1902). Around the age of 20, Willard attended Wesleyan College in Middletown, Connecticut not far from his hometown. In college, he was a member of Alpha Alpha, a Wesleyan chapter of Chi Psi. The Sixth Decennial Catalogue of Chi Psi states he was part of the Class of 1888 (Warner, 1902). However, Willard only attended one year at Wesleyan; he left during his sophomore year. His two brothers also attended Wesleyan. Like his brother, William Treat left his second year. Out of the three brothers, Edwin Cuyler Treat is the only one that actually graduated from Wesleyan, in 1894. Willard E. Treat married on May 4, 1897 to Emma Brooks Shipman. They were married for over 40 years, until she died while on vacation in Fort

Myers, Florida on November 29, 1938. A year later, in 1939, Julia Lansing Kelsey became his wife (U.S. Federal Census, 1930). They lived on Res 524 Main Street in his hometown, East Hartford, Connecticut. There is no record of her death. Nancy Finlay, the Curator of Graphics of the Connecticut Historical Society, stated no children were mentioned in the Federal Census of 1930. According to an article Nancy Finlay found in the Hartford Courant on July 23, 1922, Willard cultivated 10 acres of tobacco in the Silver Lane section of East Hartford. He had been a tobacco grower for over 40 years. In the 1895 and 1911 edition of *Zoologisches Adressbuch*, Treat is also listed as an ornithologist. Another contact, Suzy Taraba, Wesleyan's University Archivist and Head of Special Collections of the Olin Library, discovered that Willard Ellery Treat died on May 9, 1955. This information was found in the Alumni Record of 1961, although Willard did not graduate from Wesleyan. In the 1952 edition of the Wesleyan University *Alumni Record*, more is stated about Willard Treat:

“Treat, Willard Ellery. Chi Psi. b July 31, 1865, East Hartford. Left fr yr; tobacco grower 1897-1923; mem Am Ornithologist Union 1886-1904; taxidermist 1882-1930; pub articles on outdoor life; m May 4, 1897 Emma Brooks Shipman who d 1938; m Julia Lansing Kelsey 1939. Res 524 Main St, East Hartford.”

Even with this information, it is difficult to uncover more in-depth information on his background. One thing is for certain, Willard died in a place he rarely ventured from during his life, East Hartford, Connecticut.

Life as an Ornithologist and Author

Willard Ellery Treat started his interest in ornithology at a young age. He was a member of the American Ornithologist Union (AOU) from 1886-1904. During this time, Willard published a series of small articles in *The Auk*. All of the specimens described in *The Auk* were

found in Connecticut. In addition, he also published an article in *Science* titled ‘Great Horned Owls in Confinement’ in 1893. This article showed that Willard could author nature journals with fine detail and observation. Willard is also cited in *The Birds of Connecticut* (1913) by John Hall Sage, Louis Bennett Bishop, and Walter Parks Bliss. He is mentioned several times throughout the publication where he observed and helped identify birds for the authors. These birds include the double-crested cormorant, pintail, ruddy duck, among others. One bird Willard collected, the yellow-headed blackbird, was given to John H. Sage for his collection in Portland, Connecticut.

Treat Specimens

Although little is known today about Willard E. Treat, his specimens can be found in a number of places. The University of Connecticut holds over 1900 animal specimens, most of which are birds. As described on the university’s website, “The collection began with the donation of study skins, (dated between 1875 to 1925) from the private collections of J.H. Sage and W.E. Treat, and emphasizes the fauna of Connecticut and the northeastern U.S.” (University of Connecticut, 2004). Susan Hochgraf, Vertebrate Collections Manager of Biological Research Collections at University of Connecticut, found two of Willard’s ledger books. The first volume is dated January 1, 1887, a year after he left college. In this ledger, he included dates, specimen numbers, Latin names, sex, body measurements, stomach contents, and remarks strictly on bird species. In the first page, he signed his name, followed by his location, East Hartford, CT. In addition, there is a small note, stating the donation of some of his specimens to California, Ohio, Pennsylvania, and New York. The second volume includes the same field data, but with mammals, such as bats and shrews. This volume is dated January 1891 through 1915. The meticulousness of Willard’s ledgers shows he was a true naturalist.

The Smithsonian Museum of Natural History houses a very small collection of Treat's specimens, which includes a song sparrow, four sharp-tailed sparrows, and a redstart. James Dean, Collection Manager of the Smithsonian Institute's Division of Birds, indicated that all six specimens were collected in the 1890s.

Radford University has a small collection of 29 Willard Treat's bird specimens, none of which are on display. All of the specimens were collected between 1885 and 1896. The specimens include one cedar waxwing, one rose-breasted grosbeak, two common redpolls, three common grackles, two brown-headed cowbirds, three rusty blackbirds, two Swainson's thrushes, two American pipits, one black-capped chickadee, two cerulean warblers, two northern parulas, one yellow-rumped warbler, one American redstart, one red-breasted nuthatch, four white-breasted nuthatch, and one ruby-crowned kinglet. There is still no explanation as to why Radford University houses these specimens. No written documentation has been found indicating donations from Willard, the University of Connecticut, or the Smithsonian. Another aspect of studying these specimens could be determining their worth in natural history. When assessing the population numbers and habitat loss, only three out of the sixteen different species are considered of ecological importance; the cerulean warbler, rusty blackbird, and northern parula.

Ecological Importance of the Specimens of Willard E. Treat

Cerulean Warbler (*Dendroica cerulea*)

Male (left) and Female (right)



Specimens: Male (left) and Female (right)



The cerulean warbler (RU 602 & RU 611) is a significant find, due to its conservation status. It is listed as a 'vulnerable' species by the International Union for the Conservation of Nature, a species of concern in 13 states, threatened in two states, an endangered species in one state (Rosenberg, Barker, & Rohrbaugh, 2000). The main threat to their species is deforestation and forest fragmentation. According to Southern Environmental Law, cerulean warbler numbers have dropped over 80% in the last 40 years (United States Fish and Wildlife Service, 2007).

Today, they are the most rapidly declining warbler species in the country. Currently, the cerulean warbler is not listed as a threatened species. In 2000, the Southern Environmental Law Center petitioned for it to be included (United States Fish and Wildlife Service, 2007). However, six years later on December 5, 2006, the USFWS turned down the request. Even though the USFWS rejected the petition to list the cerulean warbler as a threatened species, they did create a Conservation Action Plan. According to this plan, the USFWS acknowledges the species is declining and that there is a high probability that, within a century, the population will be only 10% of their current numbers. A Status Assessment prepared by Paul Hamel (2000) for the Fish and Wildlife Service stated that the “primary threat to the species is the loss of habitat on the breeding and winter grounds.” They believe this is due to agriculture and development. This makes the cerulean warbler, along with other songbirds, vulnerable to brood parasites, like the brown-headed cowbird, another species collected by Willard Treat. In addition, brood parasitism increases predation on individuals and reduced likelihood of surviving migration (Hamel, 2000). By comparing population numbers in different forest compositions, scientists Weakland and Wood determined that cerulean warblers were affected negatively by increased forest fragmentation. As microhabitat variables, like tree density and canopy cover, decreased, cerulean warbler numbers decreased as well. Large-scale landscape changes, like mountain top removal and mining, had an even greater impact on the cerulean warbler populations. These changes affect the slope and tree composition of an area and create a greater gap between members of the same species (Weakland and Wood, 2005). This species is declining throughout the eastern United States. Conservationists are currently trying to implement habitat and breeding-ground restoration to help recover cerulean warbler numbers (United States Fish and Wildlife Service,

2007). Implementing management of forested areas is essential to conserving cerulean warbler habitats (Hamel, 2000).

The Rusty Blackbird (*Euphagus carolinus*)

Male (left) and female (right).



The rusty blackbird (specimens RU 530, RU 531, & RU 532) has declined over 90% in the last 30 years (Shaw, 2006). Many people fail to consider this species, or any blackbird species, to be decreasing in number, because they are typically found in large flocks. Scientists do not know the reasoning behind this sharp decline, but suspect wetland habitat loss to be the primary cause. Currently, there are no extensive conservation efforts or programs in effect to protect rusty blackbirds from further decline. More research is needed to discover the effects of climate

change on population numbers, if there is a decrease in the availability of nesting areas, and how to implement long-term monitoring efforts of the species (Shaw, 2006). The International Union for Conservation of Nature lists it as vulnerable with a decreasing population. The International Rusty Blackbird Technical Group was created by the Migratory Bird Center, under the Smithsonian Institute, in 2005, to study the status of the rusty blackbird. They are still in the preliminary stages of research, but have found positive correlations between wetland degradation and species loss, because they depend on wetlands for their habitat (Shaw 2006). Without wetlands, the rusty blackbird has no place to live, resulting in migration or death.

Northern Parula (*Parula americana*)

Female (below)



Female (left) and Male (right)



The northern parula (RU 603 & RU 616) is considered a species of special concern in the State of Connecticut (Department of Environmental Protection, 2008). During the past 30 years, the breeding locations of the northern parula have been monitored to get a count of population numbers. In 1986, there were only four known breeding locations throughout the state. Today, there is only one with very few breeding pairs. In some areas, like Connecticut and Maryland, populations declined over 50% in under 50 years (Askins, 2002). There has been little research

done on the causes of these declines. However, some evidence suggests the decline coincides with fewer numbers of lichen found in the area, which the northern parula uses as nesting material (Boyle, 2002). The northern parula is one of the only birds that utilize the lichen, like old-man's beard (*Usnea barbata*) and hanging moss (*Usnea longissima*) for its nest. These species of lichen are sensitive to acid rain and air pollution, which has caused their numbers to decline. Ornithologists believe that the number of northern parula birds will level off as the species slowly adapts to using different materials for their nests (Boyle, 2002). The question remains of whether or not it will adapt fast enough and without other population constraints, such as habitat availability, because of development and deforestation (Askins, 2002). These population constraints could also promote decline. The decrease in population numbers is still unclear. Determining the species' degree of dependence on lichen and forests is essential to implementing management strategies for the northern parula and preventing further decline.

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Images

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