

Historic Egg Collections Donated to the Academy of Natural Sciences

Dana Stott Cohen

In 2014, two area Quaker Schools – Westtown Friends School and George School – began to clean out their science departments to make way for the construction of new science buildings. Their egg and study skin collections were donated to the Academy of Natural Sciences of Drexel University (hereafter ANSP or Academy). Both schools, founded upon Quaker educational values and traditions, have always taught natural sciences with the belief that one can apply scientific principles to everyday occupations and to develop greater spiritual understanding. The egg and skin collections were amassed by students, teachers, and other donors, and they were used as teaching tools in science classes.

The collections of both schools date back to the late 1800s, during which time the study of natural history was very popular. Scientists and amateur naturalists alike collected specimens for their private collections, some of which have survived to be deposited and catalogued in scientific institutions. The eggs were prepared by using a special tool to precisely cut a hole, sized to accommodate the embryo at its particular stage of incubation. The contents were then “blown”

from the shell, which was subsequently washed, labeled, and cataloged.

Boys were encouraged to collect eggs as it involved being outdoors and climbing trees, but the activity was not always so casual and became highly competitive in some circles. Relatively common eggs were sometimes traded like baseball cards, but rare or difficult-to-obtain eggs often fetched very high prices.

What began as a recreational pursuit eventually grew into the branch of ornithology called “oology.” Oologists were interested in taxonomy, the development of the embryo, nest building, and breeding behavior, and they gained perspective on these topics through the study of eggs. Specimens were organized into scientific collections and their data recorded on labels and catalogs. Personal collections were identified with set marks unique to the collector. Later, the numbering system devised by the American Ornithologists’ Union (AOU) was used to identify egg sets.

The practice of oology and recreational collecting of eggs and nests waned in the early 20th century with the passage of the Lacey Act (1900) and the Migratory Bird Treaty Act (1918), as the general public began to understand that unregulated collecting had deleterious effects on bird populations. As general interest in collecting eggs dwindled and became illegal, the egg collections of the George and Westtown schools were used as teaching tools less and less. Eventually, they were packed away and sadly neglected for many years, gathering dust and dirt, and some eggs were damaged. Upon accepting the generous donations, several scientists and a volunteer from the Academy, carefully wrapped each specimen in tissue and placed them in boxes for transport back to the Academy.



A few eggs collected in Chester County, from the George School collection: (1) Turkey Vulture (*Cathartes aura*), collected May 12, 1904 (ANSP 202871); (2) Broad-winged Hawk (*Buteo platypterus*), collected May 7, 1905 (ANSP 202869); (3) Barn Owl (*Tyto alba*), collected April 16, 1905 (ANSP 202883); (4) Vesper Sparrow (*Pooecetes gramineus*), collected May 13, 1906 (ANSP 203043); (5) Blue-winged Warbler (*Vermivora cyanoptera*), collected June 3, 1904 (ANSP 202953). Photograph by Matthew Halley.

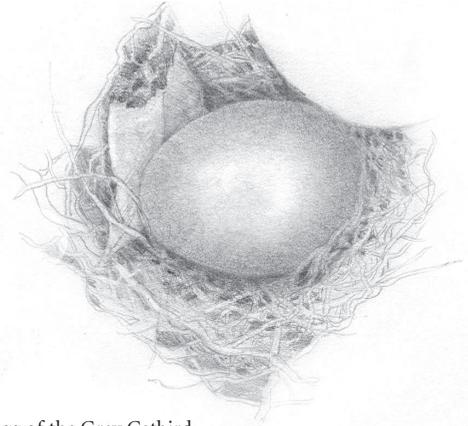
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To accession the Westtown and George School eggs into the Academy's collection, they needed to be sorted, cleaned, rehoused in new archival boxes, labeled, and assigned ANSP database numbers. For each egg, any information from the original label, including species, location, collector, date collected, set mark, donor, collection number, etc., was transferred to a new label with an ANSP number and remarks.

This required a good bit of detective work as many of the egg sets had poor data, such as somewhat cryptic writing or meaningless numbers written on the eggs themselves. Some had notes written on scraps of paper. Due to the lack of information accompanying the collection, more detective work remains. According to archivist Mary Brooks, Westtown School archives contain natural history museum catalogs, which will hopefully help to decipher the numbers written on many egg sets. Similarly, a student volunteer at George school is presently helping archivist Dave Long go through archived issues of the school newsletter, *The Ides*, to locate any additional information regarding the egg collection.

The Westtown collection at ANSP includes 407 specimen sets, each comprising one or more eggs from the same nest, representing about 168 bird genera and 264 species. However, only about 90 specimens have date and/or locality and/or collector data. The top five families, in terms of number of sets in the collection, were: Emberizidae (30), Anatidae (25), Laridae (21), Ardeidae (20), and Accipitridae (19). The most common genera in the collection are *Buteo* (13 specimens, 7 species), *Vireo* (13 specimens, 9 species), and *Egretta* (10 specimens, 3 species). Unfortunately, many of the eggs are missing critical data, like the date of collection and identity of the collector. Among those with data are 16 sets collected in 1879–80 in southeastern Pennsylvania by DVOC founder Samuel N. Rhoads (1862–1952).

There are also 16 egg sets collected in Florida by the mysterious Charles J. Pennock (1857–1935), a member of the DVOC who disappeared immediately after the May 15, 1913 meeting of the club and was later found in Florida, where he was living in secrecy from his wife and friends. Despite his apparent mental illness, Pennock continued to study birds during his extended Florida “vacation,” and under the pseud-



An egg of the Gray Catbird

Drawn by Katrina Rakowski

onym John Williams, published at least 15 papers in the *Wilson Bulletin* and *Auk* during that time! Pennock returned to his family and resumed an active role in DVOC in 1920, to the astonishment of all. The Pennock specimens in the Westtown collection were collected on return trips to Florida, after his reappearance. The earliest Pennock specimens in the Westtown collection are two eggs of the Little Blue Heron (*Egretta caerulea*), collected on March 25 and 28, 1921, at a heronry about 1 mile north of Fort Ogden. The most recent specimens from this series, clutches of the Tricolored (*E. tricolor*) and Little Blue Herons from Charlotte Harbor, are dated March 22, 1929.

The rarest egg is that of the Carolina Parakeet (*Conuropsis carolinensis*, ANSP 195452), but sadly it has no date or locality data. There are also eggs of the endangered Whooping Crane (*Grus americana*, ANSP 195336, 203767), and the Bald Eagle (*Haliaeetus leucocephalus*, ANSP 195424), but they are also lacking data. Of the eggs with data, the oldest specimen in the Westtown collection is ANSP 195632, collected from a nest of the Savannah Sparrow (*Passerculus sandwichensis*) in 1862, in the Porcupine Mountains, Yukon Territory. There is another rare series collected by H. H. Bailey in the Galapagos Islands (Ecuador) in 1905, which includes eggs of the Red-billed Tropicbird (*Phaethon aethereus*), Blue-footed Booby (*Sula nebouxii*), and Magnificent Frigatebird (*Fregata magnificens*).

The George School collection includes 143 egg sets, representing 37 families, and about 113 genera and 105 species. Only 60 specimens have date and/or local-

ity data, and in every case the collectors are unknown. Of the dated specimens, the earliest is 1864 and the latest 1944. The families with the most specimens are Icteridae (14), Parulidae (13), Emberizidae (12), and Hirundinidae (9). The top five most speciose families were: Parulidae (8 species), Icteridae (8), Emberizidae (8), Hirundinidae (7), and Cardinalidae (6). An egg of the Great Blue Heron (*Ardea herodias*, ANSP 202864), collected in 1864, is the oldest in the George School collection. The entirety of the collection was acquired in the United States, the most remote specimens being from California.

After they are accessioned into the Academy's existing collection, the donated eggs will serve to educate visitors and students. The significance of shape, color, size and markings are interesting aspects of eggs for visitors. According to Dr. Nathan Rice, the Ornithology collections manager at ANSP, the egg collection is relevant and valuable to today's scientific community as well. As new instruments and methods are developed, historic museum collections become increasingly useful, offering insight into bird physiology, timing of reproduction (phenology), geographic distribution, and even diet.

By measuring stable isotopes in tiny samples of eggshell, researchers can examine the dynamics of the food sources and environmental quality at the time the egg was laid. Contaminants such as mercury, DDT, and arsenic can be measured from historic specimens, giving us a window into the past. Chemical analyses of historic eggs set benchmark levels against which modern eggs can be compared. This can be a critical

source of historical information about environmental change, which may prove useful to conservation efforts. These eggs may also be an inspiration to artists. Drexel doctoral candidate and *Cassinia* editor Matthew Halley mentioned several ideas about using the Academy's scanning electron microscope (SEM) to examine shell micro-structures, which are both scientifically and artistically interesting.

Indeed, one cannot dispute that the eggs viewed in their boxes, either all together in a large drawer or individually, are exceptionally beautiful. The various shapes, colors, sizes and markings catch the eye of the most casual observer. Eggs have been universally regarded as metaphorical, philosophical, and religious symbols of fertility or rebirth since ancient times. These donated eggs will no doubt provide artists with inspiration and drawing information, and the old, beautifully handwritten labels are also intriguing.

The eggs will remain in the climate-controlled Ornithology department at the Academy for perpetuity. Whether they were collected as "trophies," a boy's hobby, or scientific specimens, the value and usefulness of this collection will keep growing and changing. It is a blessing that they have been preserved and donated to ANSP.

Dana Stott Cohen

Ornithology Department

Academy of Natural Sciences of Drexel University

1900 Benjamin Franklin Parkway

Philadelphia, PA