J. A. Allen: The Shy and Retiring Giant

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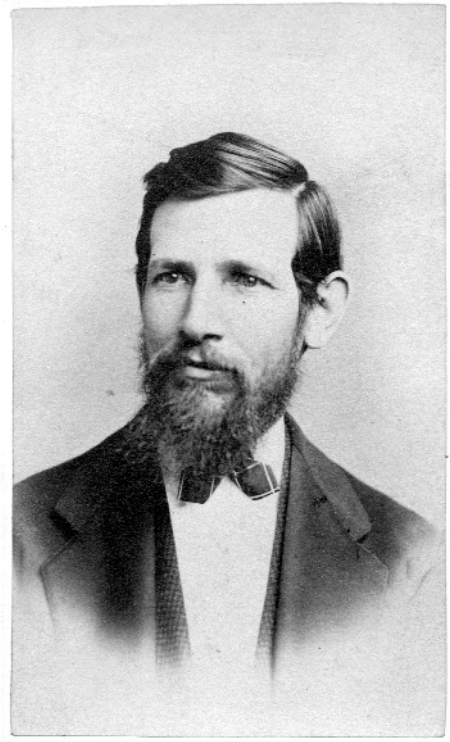
Joel Asaph Allen, who always signed his manuscripts J. A. Allen, was a truly remarkable man. Shy and retiring to the point of disability, suffering from debilitating long-term illness for much of his life, born into humble surroundings, and with a father who expected him to spend his life taking care of the family farm, it is difficult to believe that he became one of the most influential theoretical biologists of the late nineteenth and early twentieth centuries, with an international reputation and influence—a true intellectual giant. He became the dominant figure in North American ornithology and was a premier mammalogist as well. He is referred to by Frank M. Chapman and Witmer Stone, both significant figures in North American ornithology, as "Father of the American Ornithologists' Union," for more than a century the premier ornithological organization of the Western Hemisphere (Chapman 1927; Stone 1921).

J. A. Allen was born in 1838 in Springfield, Massachusetts, raised by puritanical parents on a farm a half mile from the nearest neighbor, and educated in the traditional red schoolhouse a mile from home. His father had no interest in natural history, but his mother apparently understood the inclinations that developed in Allen by his early teenage years, and she provided sympathy and influence on his behalf. Allen acquired his first gun at age thirteen and soon was absorbed in the collection of the local bird species, as was the custom of the times. We see a glimmer of what he was to become, however, in words from his autobiography [all unreferenced quotes are from Allen 1916]: "Warblers, vireos, kinglets, sparrows and many other kinds of birds were shot, measured, weighed, described and given provisional names…I made attempts to draw and color them…" This quantitative approach is the harbinger of a scientist, not a hobbyist. Then followed a series of fortuitous acquaintances that served to shape his early life and ultimately launch him on what would be a most influential career. An art teacher, Bradford Horsford, was an amateur ornithologist and taxidermist who sold Allen a copy of the Brewer edition of Alexander Wilson's *American Ornithology*, and the young boy soon discovered books by Thomas Nuttall and Audubon in the Springfield public library.

Allen's obvious ability and academic interests quickly put him into a class by himself at the district school, and he spent several winters at Wilbraham Academy, where he chose an eclectic group of subjects which included physiology, natural philosophy, botany, chemistry, astronomy, rhetoric, algebra, French, and German. In the summer, his free time was severely limited by his farm duties, but he managed to learn by reading about geology, mineralogy, and meteorology. Clearly, a man of extraordinary intellect and ambition was developing. He practiced writing by keeping a daily journal and developed the goals of writing about the birds of New England, and doing editorial work. Oliver Marcy, his teacher in the natural sciences, became his mentor and submitted one of Allen's compositions — a summary of three months from his weather journal — to the *New England Farmer*, which published both it and

a series of subsequent articles on the same subject. This was in 1858 when Allen was twenty years old. The following year the *New England Farmer* published a series of twenty-five of his articles on New England birds. J. A. Allen was on his way to a writing career that spanned nearly six decades. He already had developed a critical scientific attitude, dispelling popular myths about the influence of the lunar cycle on various agricultural practices. From 1859-1861 he skinned and mounted some 300 birds of nearly 100 species, many mammals, and made pickled collections of fish, amphibians, and reptiles, along with displays of mollusks and insects, rocks and minerals — all resulting in a veritable museum. He was later to write: "The whole was amateurish in the extreme, and represented merely a superficial acquaintance with a wide range of subjects, but enough to aid immensely to the pleasure of living, giving, as it did, the sense of being in touch with the plant and animal life and the geological features of my immediate environment." Allen had become a broadly educated naturalist by the age of twenty-four, but the intensity of his physical labor on the farm combined with long hours spent on his natural history subjects affected his health, and he began periods of semi-invalidism that were to plague him throughout life. Family financial difficulties prompted him to sell his museum to Wilbraham Academy and use the money to support himself at the school.

At Wilbraham he befriended William Harmon Niles, a nephew of his mentor Oliver Marcy, and when Niles made application to the Lawrence Scientific School in Cambridge to become a student of Louis Agassiz, Allen decided to do the same. Hence, in 1862, at the age of twenty-four, J. A. Allen moved to Cambridge and joined the mainstream of North American science. Along with laboratory work with Agassiz, Allen was to take lecture courses with, among others, Jeffries Wyman in comparative anatomy and Asa Gray in botany. Agassiz never could bring himself to believe in the evolutionary principles of Charles Darwin — a retrospective blot on an otherwise sterling record in science — but Asa Gray became the major North American defender and advocate of Darwinian evolution, and it is probable that he influenced Allen in that regard. Allen became part of the swirl of intellectual atmosphere that Agassiz generated, an atmosphere which drew notables in all fields of science to the museum and laboratories. Here Allen worked and conversed in German with the eccentric



A young J. A. Allen. Photograph courtesy of the Ernst Mayr Library, Harvard University.

preparer of fish skeletons — a heady world for an ambitious and brilliant young man. He was given a group of corals to study and told to discover their patterns of growth and laws of development — "a trial of persistence" and a study in "learning to observe," the pedagogical method of Agassiz. His health deteriorated, with serious eye problems following a bout of measles. He nevertheless persisted in his work, spending the summer on the family farm: "Although in wretched health, suffering from chronic indigestion as well as from weak eyes, I collected over four hundred specimens of animals, chiefly vertebrates, and largely birds, besides taking a share in the farm work." For the next two and a half years Allen worked at the Agassiz Museum of Comparative Zoology (MCZ) cataloging the bird collections and spending his summers on the farm collecting for the museum.

Collecting expeditions and the MCZ collections

When Allen took over the bird and mammal collections at the MCZ, there were fewer than 3000 bird specimens, and the collection was not of national significance — Agassiz had not wanted to compete with other museums in all taxa. But Allen was to expand the collection greatly, partly through purchase and donation, and by major collecting efforts as well. Allen's first large-scale collecting expedition was with Agassiz to Brazil in 1865. As they sailed south, they could see the smoke from the battle of Richmond in the closing phases of the Civil War. The trip into the wilderness involved a cavalcade of fourteen mules, followed by travel in a fifty-foot dugout canoe, and it featured several close scrapes with shipwreck and disaster. Not unexpectedly, Allen was sick during the entire trip, and the collecting trip route had to be modified to accommodate him. Arriving at the port with eight mules carrying his specimens, Allen found his local contact gone and hence, "I was thus received as a stranger, and as my funds had become exhausted, and I was seriously ill, the outlook was not exhilarating." He was fortunately befriended by a Gloucester, Massachusetts, ship captain who arranged for him and his collected specimens to sail home. The trip home was, however, far from uneventful — a major storm off Cape Hatteras forced the damaged ship to sail to St. Thomas for repairs, and turned a month-and-a-half trip into three. Allen and his colleagues brought back an impressive 1400 specimens (Barrow 1995). Frank Chapman, commenting on the dangerous conditions faced by Allen, said, "The present day naturalist, who travels in palatial steamers or follows well-worn trails has but faint conception of the discomforts of a 90-day voyage in a small sailing vessel, and perhaps never experienced the risk of being himself collected" (Chapman 1922).

In 1867 Allen collected in Illinois, Iowa, and other parts of the Middle West, and then returned to resume his duties at Agassiz's Museum of Comparative Zoology (MCZ) at Harvard, where he remained until 1885, as Assistant in Ornithology and, later, as Curator of Birds and Mammals. In 1868 and 1869, Allen collected in eastern Florida, where, "Parakeets were still abundant, and alligators had almost undisputed possession of the bayous and river banks."

In 1871-1872, Allen spent nine months collecting in the Great Plains and Rocky Mountains, in a time when camping was a bit on the rough side: "The experience was

one long to be remembered, as we took no camp outfit but our blankets, a little flour and canned fruits, depending naturally upon buffalo meat for our main subsistence, buffalo chips supplying us with fuel." Marauding Indians were also a problem. The trip was most successful, however, with 1500 bird skins, 100 preserved in alcohol, and many nests and eggs added to the MCZ collections, along with a substantial collection of mammals. In 1873 Allen joined a Smithsonian Institution expedition, organized by Spencer Fullerton Baird, to accompany the army and engineers for a survey of the Northern Pacific Railway route. The expedition included 1400 troops with General George A. Custer in command, and hostile Indian attacks forced abandonment of bird collecting for several weeks; 60 miles north of the Little Bighorn (where Custer three years later met his Waterloo) the troops had a major engagement with Sioux Indians with substantial loss of life. Collecting birds for a museum in those days was challenging, to say the least. Allen summed up the experience: "To me it was an experience of great value from the naturalists' point of view, and one I have never ceased to recall with much pleasure for its personal associations and its dash of military flavor."

Ill health prevented further major expeditions, but while Allen was recuperating from pleurisy in Colorado in 1882, he managed six weeks of bird collecting with his friend William Brewster of Cambridge and the MCZ. By the time that Allen left the MCZ for the greener pastures of the American Museum of Natural History in New York, the MCZ collection of birds had grown to 33,000 mounts, skins, skeletons, and specimens preserved in alcohol (Barrow 1995). Allen also promoted the MCZ and improved its stature through his extensive publications on birds and mammals. He also initiated the first course in scientific ornithology offered at any major university, although his shyness and resulting failure as a public speaker combined with low student turnout served to convince him that the course was a failure, and he gave less than half of the scheduled lectures. He never attempted formal teaching again.

The Nuttall Ornithological Club

The Nuttall Ornithological Club (NOC), the oldest organization in North America devoted to ornithology, was founded in Cambridge in 1873 by an extraordinary group of nine boys with an average age of twenty-two (Davis 1987). In 1876, C. J. Maynard, editor of the NOC's new *Bulletin*, proposed J. A. Allen for membership. This proved to hold an ironic twist since Allen would replace Maynard, who had gone on an extended collecting expedition to Florida, as editor-in-chief of the *Bulletin* later that year, an event that led to Maynard's resignation from the Club (Batchelder 1937). Allen was thirty-eight years old, much older than most other NOC members, and had been publishing scientific papers on birds for sixteen years. He was thus held in awe by most of the NOC membership, and when problems with editorship of the *Bulletin* arose he quickly stepped into a leadership role, accepting the editorship — called by Batchelder (1937), "…the most important action the Club has ever taken." He recruited as associate editors George N. Lawrence, Spencer F. Baird, and Elliot Coues, three of the most prominent North American Ornithologists, thus giving stature and prestige to the *Bulletin* and to the NOC.

Under Allen's guidance, the *Bulletin* of the Nuttall Ornithological Club became the premier journal of scientific ornithology in North America. As a major figure in science, he represented the Club on occasions where clout was important. Such an occasion arose in the winter of 1877-1878 when the NOC became embroiled in the "Sparrow War." The House Sparrow had been introduced into Boston to control "cankerworms," and the merits of this introduction were being fiercely debated. The NOC dedicated one of its meetings to a discussion of this introduction, and the consensus was unfavorable to the House Sparrow. An abstract of the arguments against the House Sparrow by J. A. Allen and others was published in local newspapers and drew a nasty editorial response that downgraded the Club and challenged the competence of its members. Allen responded with vigor and an acerbic tone. In a letter of March 17, 1878, to William Brewster, Allen discusses his impending response to the slanderous editorials: "Since your letter was written more abuse than ever has appeared — the last time as an editorial in the [Boston] Journal! This was too much for me and I could keep silent no longer." The major proponent of the House Sparrow, and the suspected author of the slanderous newspaper comments, was Thomas Brewer, a prominent Boston ornithologist who was officially, although not actively, a member of the NOC. In the same letter to Brewster, Allen states that he is going to try to get Brewer to admit to the authorship:

> I have also today mailed a personal letter to Mr. B. charging him with the authorship of the Journal attack. I ask him…to authorize me to deny authoritatively from him that the current belief that he is its is [sic] author is erroneous! Farther than this, I shall not rest till a denial of all the base misrepresentations against the Club has been inserted in every Boston paper in which these slanders have appeared.

His letters soon appeared. He opens his remarks in one letter:

> In consequence of the various false and injurious statements respecting the character of the Nuttall Club, which have recently appeared in this and other Boston newspapers, in which the Club has been referred to contemptuously as a body of Cambridge 'juveniles,' 'precocious boys,' 'over-modest youths,' and in other terms of similar import, I beg leave to state briefly in your columns just what the Nuttall Ornithological Club is.

He then outlined the national status of the *Bulletin* and the members of the Club, defended the competency of the evidence the Club members has amassed, the competency of the members themselves, and branded the editorial remarks as "gross misrepresentation" (Batchelder 1937). Allen's letters to the leading Boston papers were published and effectively won the Sparrow War for the Club. One didn't pick a fight with J. A. Allen and expect gentle treatment.

The American Ornithologists' Union

By 1883, things were not going well for the Nuttall Ornithological Club, with membership at fifteen and often not a quorum in attendance at meetings. A discouraged William Brewster, then president of the NOC, together with *Bulletin*

editor Allen and associate editor Coues, hatched a plan for founding a North American ornithological organization. They duly sent out invitations to prominent ornithologists for a seminal meeting at the American Museum of Natural History in New York. At that meeting the American Ornithologists' Union (AOU) was born, complete with bylaws, committees, the intent to publish a quarterly journal in ornithology, and a new president — J. A. Allen. Allan and Brewster apparently had ideas about the journal, and the following month the NOC voted to discontinue publication of its *Bulletin* and "offer the American Ornithologists Union our good will and subscription list — to place the 'Bulletin' in the Council of the Union, with the tacit understanding that the new serial of the Union shall be ostensibly a second series of the Nuttall 'Bulletin.'" Thus, *The Auk* was born, fully developed with a subscription list, format, editorial board, and editor — J. A. Allen. Allen remained editor of *The Auk* for twenty-seven years, during which time it became, with Allen's firm guidance, arguably the premier ornithological journal in the world. Allen also led the AOU through its first seven years as president, by which time it was thoroughly established as the premier ornithological organization of the Western Hemisphere. He maintained his influence within the AOU as member of the powerful Check-list Committee that established a standardized checklist of North American birds, providing for the first time a procedure and code for standardizing ornithological nomenclature, hitherto a hodgepodge of discordant bird names and checklists. Allen was the editor of the first three editions of the AOU's *Check-list of North American Birds*. The AOU code of nomenclature was to have far-reaching effects, becoming the basis for the International Code of Zoological Nomenclature that stabilized nomenclature worldwide. Allen was in the vanguard that led to prominence for the AOU internationally. Other AOU committees that were to produce important results included the committee on migration and geographical distribution of North American birds, whose work eventually led to the formation of the Biological Survey (now US Fish and Wildlife Service). The Committee on the Protection of North American Birds influenced the formation of the local and national Audubon societies and produced the "AOU Model Bird Law" which served as a model for laws in most states and provinces (Barrow 1998). Allen was influential in all of these endeavors — he was a man of broad vision and a capable politician.

On a local level, J. A. Allen was involved with the Boston Society of Natural History, serving on its Council for a number of years and for short terms as Acting Secretary and editor of its publications. He was also the Museum's Curator of Birds and Mammals. After Allen moved to New York in 1885 to become Curator of Birds and Mammals at the American Museum of Natural History (AMNH), he was active in the Linnaean Society of New York, serving as their president, and he served as vice president of the New York Academy of Sciences. At the AMNH, in addition to his curatorial duties, he was editor of the *Bulletin* and zoological series of the *Memoirs* for thirty-two years.

American Museum of Natural History

After the death of Louis Agassiz, his son Alexander became Director of the MCZ and began to de-emphasize collection building, presiding over a decline in the number

An older J. A. Allen at his desk. Photograph courtesy of the Ernst Mayr Library, Harvard University.

of staff. By 1885 financial considerations made the possibility of closing the museum a distinct possibility. J. A. Allen had to decide whether to remain with the MCZ and its uncertainties, take a job with the U.S. Geological Survey, or to accept the curatorship at the AMNH. It is clear that Allen had disagreements with many of the young Agassiz's policies. In a February 9, 1887, letter to William Brewster, Allen expresses his displeasure with Agassiz's desire to discard some specimens preserved in alcohol:

> …in the case of the small mammals, while the number of specimens was in some cases large, the series was really of great value for monographic research. Mr. A. is a 'little off' on this subject of throwing away alcoholics, & I fear the distemper is chronic. His revered father, under whose explicit direction this valuable material was accumulated, would I fear rest uneasy in his grave could he know of the proposed sacrilege!

The feeling was apparently mutual, as Agassiz was clearly unhappy with the long absences that Allen had from the museum due to his chronic ill-health. Agassiz wrote a note on the bottom of Allen's resignation letter: "This is pretty cool considering the

treatment he received from the museum… [and for Allen] not to mention in any way that for 3 years he was kept drawing his full salary for doing nothing."

Allen's wife had died, leaving him to raise a three-year old son alone, which dissuaded him from taking a position with the Geological Survey that would require extensive field work, and so he took the opportunity to preside over a new department, Ornithology and Mammalogy at the AMNH (Lanyon 1995). Allen found the collections of birds and mammals meager — 1300 mounted mammal skeletons and skins, with virtually no study skin collection, and about 13,000 bird mounts, skins, and skeletons, mostly on display. In his first annual report Allen emphasized, "…the formation of adequate study collections, to serve as the basis for scientific research, was strenuously insisted upon in order to bring the department to a proper standard of efficiency." In 1887 he convinced the museum Trustees to purchase a collection of 12,000 bird skins of the George N. Lawrence collection, the Herbert Smith collection of 4000 Brazilian specimens, D. G. Elliot's collection of 2000 hummingbirds, Edgar Mearns' collection of 2250 Arizona birds, and an additional 500 specimens, for a grand total of 21,000 birds — not a bad year for acquisition. The ornithological collection had "suddenly been transformed from merely a show collection to one of impressive scientific importance." He also arranged for the acquisition of D. G. Elliot's ornithological library of 1000 volumes. In 1888, Frank Chapman was hired as an assistant, and by 1915 the Department had six assistants. Thus, Allen was able to pass on routine curatorial duties to others and turn his attention to scientific research — something that he was very good at. By 1915, the mammal collection had gone from 0 to 40,000 study skins. The bird collection had gone from a handful of study skins to more than 190,000, mostly from the Americas: "collectively they doubtless formed the largest and by far the most valuable collection of American birds yet assembled in any single museum." Allen had orchestrated the development of one of the finest bird research collections in the world.

Research and publications

J. A. Allen had a long and distinguished research career. He made seminal contributions to a broad spectrum of scientific disciplines that included ornithology, mammalogy, biogeography, evolutionary biology, and ecology. He published on conservation issues and made his thoughts known on a range of controversial subjects. His prolific writing is reflected in the more than 1450 titles in his bibliography. In *The Auk* alone, he published 643 scientific papers, notes, reviews, and obituaries (Chapman 1922). This prodigious output included 966 titles about birds, 271 on mammals, 134 in biography, 35 on nomenclature, 22 in biogeography, 22 on evolution, 5 on reptiles, and a few miscellaneous publications. He described or renamed three new genera of birds, 37 species, and a dozen subspecies, and was more prolific with mammals, naming 431 new species or subspecies.

His influence on taxonomy went far beyond the naming of new species. As previously mentioned, he was largely responsible for the stabilization of bird nomenclature through his dominant role on the AOU Check-list Committee and internationally through his ten years on the International Commission on Zoological

Nomenclature. Further, he was one of the leading figures in the establishment of a trinomial system for naming geographic races or subspecies in North American birds and was instrumental in convincing his European colleagues, who were slow to accept the idea. In an early paper he states:

> The next step…will doubtless be the general adoption of a trinomial system of nomenclature for the more convenient expression of the relationship of what are conventionally termed 'sub-species'… The system is already, in fact, to some extent in use here, though looked upon with strong disfavor by our transatlantic fellow-workers, who seem as yet not fully to understand the nature of the recent rapid advance ornithology has made in this country, or to appreciate the thoroughly substantial nature of the evidence on which it is based (Allen 1876).

He also realized that the naming of subspecies could be dangerous through the unjustified naming of vast numbers of subspecies. He wrote, "Only the exercise of due discretion can prevent the reduction of 'our beneficent system of trinomials' to an absurdity. It is much easier to name a dozen new species or subspecies than to get rid of one, though erected on a false basis" (Allen 1890).

Although he supported a somewhat neo-Lamarckian view of evolution that envisioned, for example, evolution of new species by direct climatic influence—"climatic modification" — a view that was dominant in North America up to the time of the 'new synthesis' of the 1940s and 1950s, he nonetheless understood and wrote about many of the fundamental principles of evolution, including isolation of populations as a factor in evolution, the importance of reproductive isolation in defining a species, and the subspecies as important to the evolution of species (Allen 1890, 1905).

Allen was a conservationist who understood the fundamental problems that wildlife faced and wrote extensively about conservation issues. He was one of the early proponents of raptor conservation. He saw habitat destruction as a major conservation issue:

> Man's destructive influence is to some extent unavoidable, but in far greater part selfish and wanton. The removal of forests, the drainage of swamps and marshes, the conversion of wild lands into farms, and the countless changes incident to the settlement of a country, destroy the haunts and means of subsistence of numerous forms of animal life, and practically result in their extermination over vast areas. The birds, particularly the larger species, suffer in common with vertebrate life in general. Electric-light towers, light-houses, and light-ships are also a fruitful and modern source of disaster, particularly during their migrations… (Allen 1886a).

He knew that ultimately public opinion was important: "Here and there bird protective associations are being formed, and more care is taken to secure proper bird-protective legislation; but the public at large is still too apathetic, or too ignorant of the real state of the case, to insist upon, and support by proper public sentiment, the

enforcement of legislative acts already on our statute-books" (Allen 1886a). When J. W. Langdon of Cincinnati gave a talk and eventually published an article (1888) arguing that the millinery trade had only a negligible impact on songbirds, and the destruction of herons, gulls and terns didn't matter much, J. A. Allen again responded:

> Until recently the only discordant notes heard [about the work of the Audubon Societies in bird protection] from any quarter were the subdued mutterings of a few reprehensible taxidermists, caterers of the milliners, whose pockets were affected by the movement in favor of the birds….Like some of our astute congressmen, he [Langdon] took the precaution to 'revise' his paper before it was printed, removing many of its grossest absurdities; leaving, however, enough to disgust the intelligent ornithologists throughout the country, yet presenting so plausible an aspect as to be misleading to the general reader, unable to detect the false premises, misstatements, and misrepresentations of which it is mainly composed (Allen 1886b).

He did, however, defend scientific collecting — not surprising for a man who made his living as a museum curator and scientist — and reacted strongly when anyone spoke harshly of collectors. Such was the case when John Burroughs suggested in print that ornithologists were an enemy of birds and "…should be put down, either by legislation or with dogs and shotguns." Allen responded:

> [Burroughs article] …is for him at least an unfortunate production, being surprisingly weak on the score of intelligence, to say nothing of good taste. It is grossly erroneous in statement, slanderous in spirit, and betrays a degree of ignorance and a narrowness of vision on the part of this well-known writer….While intelligent criticism is generally welcome, and usually beneficial, an ignorant tirade is unquestionably harmful, even to the cause it is intended to promote (Allen 1886c).

It didn't pay to rile J. A. Allen. For a gentle man, he could certainly be a harsh critic.

J. A. Allen is considered the foremost biogeographer of the latter third of the nineteenth century, and "could easily be called the 'father of American avian biogeography" (Vuilleumier and Andors 1995). Biogeography, the description of distribution patterns of animals and their causal analysis, was one of Allen's favorite fields of study for both mammals and birds. One result of his biogeographic studies is "Allen's Rule" that states that, for an animal with a broad latitudinal distribution, individuals in colder parts of their range will have proportionally shorter extremities than individuals in the warmer, e.g., individuals of a bird species that live in colder climes should have shorter, less robust bills and legs. The explanation for this rule is that shorter extremities would be advantageous for heat retention and thus are selected for in animals that live in colder climes. Allen made numerous contributions to the understanding of how climate affects the distribution of animal species. His paper "Mammals and Winter Birds of East Florida" (1871) is a classic that set forth the theoretical principles of the geographic distribution of birds in North America and won him the Humboldt Scholarship of the Lawrence Scientific School.

Allen the man

J. A. Allen was revered by his colleagues. Frank Chapman, who worked with Allen for decades at the AMNH, states:

> Doctor Allen's distinguishing characteristics as a man were modesty, sincerity, unselfishness, goodness, consideration for others, and a purity of mind…. I do not recall ever hearing him speak ill of another, but he was unsparing in his condemnation of careless work…I have seen him treat with fatherly kindness a man whose theories he had subjected to fatally destructive criticism (Chapman 1927).

Clearly, he was a very nice person, but you wanted to make sure that your science was in good order.

Allen was an almost pathologically shy individual. He never received a degree from the Lawrence Scientific School, despite all his years with Agassiz, because of his shyness, and thus his doctorate was an honorary Ph.D., given him in 1886 by Indiana University where David Starr Jordan was then president. In his own words:

> From early boyhood I was painfully embarrassed in the presence of strangers. Later in life attempts to present papers verbally before scientific societies were always unsatisfactory and often failures, not from lack of familiarity with the details of the subject but from embarrassment. The same timidity prohibited my seriously considering teaching as a possible means of raising funds to aid in meeting the expenses of an education, or of giving public lectures for the same purpose, as many of my associates at the Agassiz Museum were doing, with both pleasure and profit. The ordeal of an examination for a degree at the Lawrence Scientific School at Harvard was sufficient to banish all aspiration for such honors.

He was embarrassed about publishing an autobiography while he was still alive, but did so at the request of Henry Fairfield Osborn, President of the American Museum of Natural History and thus his boss. William Brewster, who remained a lifelong friend, sent him a letter in which he lauded the publication, and Allen's discomfort and relief are clearly stated in his reply to Brewster in January 4, 1917 letter:

> I cannot fully express to you my deep appreciation of your kind letter of yesterday. It has cheered me up amazingly and does much to relieve — indeed almost completely banishes — the many misgivings I have had for several months past over giving out to the world so confidential an account of myself as has now appeared in the 'Autobiographical Notes.' Your approval would have been greatly valued, your hearty commendation rejoices my heart, for I have the greatest confidence in your judgment regarding such a delicate matter.

Frank Chapman summed up Allen's legacy:

For more than three score years and ten he had dedicated himself to the study of nature and he has left to the world the fruits of his labors, a marvelous record of achievement, and an inspiring example of pure, unselfish devotion to the cause of science.

A fitting epitaph for the gentle giant of science.

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