



John James Audubon (American, 1785-1851) and Robert Havell, Jr. (British, 1793-1878)

Black-bellied Darter (Plotus Anhinga), *The Birds of America*, No. 64, Plate 316
1836

Engraving with etching, aquatint, and hand-coloring

34 in. x 22 7/8 in. (86.36 cm x 58.1 cm)

Gift of the Weil Print Endowment in memory of Mr. and Mrs. Adolph Weil, Sr., 2011.14

John James Audubon was a pioneering ornithologist and artist whose publication in collaboration with Robert Havell, Jr. of the four-volume, double-elephant folio, colorplate *Birds of America* (1827-1838) is considered by many to be the finest hand-colored aquatint illustrations ever produced.¹

Audubon (nee Jean Rabin) was born 26 April 1785 on his father's sugar plantation in Saint-Domingue (now Haiti), the illegitimate son of Jean Audubon, a French naval officer, and Jeanne Rabine, a creole chambermaid.² His mother died when he was a few months old, and his father's mulatto housekeeper (with whom he had two children) cared for the boy until he was six. In 1791, Audubon's father, who had returned to his wife, Anne Moynet Audubon, in France and joined the Republican Guard, brought his son to Coueron, near Nantes. The couple formally adopted him in 1794, renaming him Jean-Jacques Fougere Audubon.

The handsome, energetic youth was an intrepid explorer who loved to roam the woods, collecting bird nests and eggs and other natural history specimens, which he then documented in drawings. He received a well-rounded education and at twelve went to military school intending to follow his father into the navy, but he was prone to seasickness and not good at mathematics or navigation. He failed to qualify as an officer. In 1803, in order to avoid conscription in Napoleon's army, the elder Audubon obtained a false passport in the name of John James Audubon and sent his 18-year-old son to tend Mill Grove, his 284-acre farm near Philadelphia.

At Mill Grove, Audubon lived the life of a country gentleman: "Hunting, fishing, drawing, and music occupied my every moment; cares I knew not, and cared naught about them."³ He collected natural history specimens, which he preserved through taxidermy and created a small museum that was likely influenced by Charles Willson Peale's museum in Philadelphia. Audubon also banded birds (he may have been the first to do so) with yarn and recorded their behavior in text and drawings that improved with practice. He also met an attractive neighbor, Lucy Bakewell, and in 1805 he returned to France to ask his father's permission to marry her. The elder Audubon granted that permission, and decided to sell the lead mines at Mill Grove, which had not proven profitable. Upon his return to Pennsylvania, the younger Audubon sold the mines and partnered with an associate from France, Ferdinand Rozier, to establish a general store in Louisville, Kentucky, the largest port on the Ohio River below Pittsburgh, in 1807.

In 1808, Lucy Bakewell married Audubon and joined him in Louisville. Two sons were soon born—Victor Gifford (1809-1860) and John Woodhouse (1812-1862)—both of whom would help their parents with *Birds of America*. Two daughters were also born in Louisville, but Lucy (1815-1817) and Rose (1819-1820) both died young.

Audubon's store prospered initially, and he had time to pursue his passion of studying and painting birds, but disinterest, mismanagement, and competition forced the business to move 150 miles downstream to Henderson, Kentucky, in 1810, and then further west to Ste. Genevieve, Missouri, near St. Louis. Audubon moved his family into an abandoned log cabin at Henderson and frequently resorted to hunting and fishing to feed them, but eventually he was able to buy land and build a home.⁴ He wore buckskin and moccasins like others on the frontier and he developed a profound respect for Native Americans, who were still numerous in the area prior to their removal to western reservations in the 1830s. He studied their ways and sensed in them "the greatness of our Creator in all its splendor, for there I see the man naked from His hand and yet free from acquired sorrow."⁵ A few years later when Audubon encountered a couple of "sons of nature" who were "uncommonly clean kept...and Looked so Independent,

free & unconcerned with the world that I Gazed on them, admired their Spirits, & wished for their condition.”⁶

Audubon sold his share of the struggling business to Rozier in Ste. Genevieve in 1811, rejoined his family in Henderson, and enjoyed some financial success over the next few years.⁷ He continued to collect and depict birds, and he painted a few portraits to generate income, but in 1819 he went bankrupt and was imprisoned. Upon release from jail in 1820, he worked with the Western Museum of Cincinnati College for several months, collecting and mounting natural history specimens. It was then that he decided to turn his passion for birds into his vocation, formulating the idea of publishing a complete set of life-size drawings of all of the birds in the United States.⁸ Audubon knew the recently published, nine-volume *American Ornithology* (1808-1813) by Alexander Wilson (1766-1813) and believed he could do better.

In October of 1820 he left Cincinnati on a flatboat bound for New Orleans, intent on studying and painting birds en route. His journal records “the feeling of a Husband and Father [that] were My Lot when I kissed My Beloved Wife & Children with an expectation of being absent for Seven Months.”⁹ The float trip was slow, but Audubon was expeditious. He took a skiff ahead of the flatboat to scour sloughs for birds, hunting them on water and land, recording their habits and appearance, measuring and weighing them, and dissecting them to determine their diet.¹⁰ He had developed an innovative technique for mounting birds quickly with large needles so he could paint them in lifelike poses before the color of their plumage faded.

By 1821/22, when he had already completed about 200 drawings, Audubon added to his mastery of the traditional French pastel medium “a crystal-clear watercolor technique, the ability to use gouache effectively, and an extraordinary varied use of pencil, together with the talent for combining all these graphic means to render a single bird. No one in America equaled him for graphic inventiveness until Winslow Homer some sixty years later.”¹¹ Audubon frequently went beyond faithful renderings of birds’ anatomy, seeking the best examples of a species and portraying them with slightly exaggerated poses in carefully constructed compositions often infused with dramatic conflict between the birds and their prey or predators in order to achieve scientific as well as artistic illustrations. He recorded his intent to represent “each family as if employed in their most constant and natural avocations, and to complete those family pictures as chance might bring perfect specimens.”¹² John Vanderlyn (1775-1852), a prominent artist who had studied with Jacques Louis David (1748-1825) in Paris, viewed Audubon’s drawings in New Orleans and pronounced them “handsomely done,” with “a truth and accuracy of representation as much so as any I have seen in the country.”¹³

From the moment he docked in New Orleans in January of 1821 until the last of the 435 plates were printed for the four volumes of *Birds of America* in 1838, Audubon focused his prodigious energy and that of his wife and two sons on the extraordinary publication that would forever identify his name with ornithology and nature conservation.¹⁴ In 1823 he visited Philadelphia (then the center of science and technology in the United States) and New York seeking endorsements and financial support for his project, but was unsuccessful in finding funding. In 1826, he sailed to Liverpool, England, exhibited 250 of his illustrations, and then journeyed to Edinburgh, Scotland (a major European publishing center), where he partnered with William H. Lizars (1788–1859), an engraver and colorplate printer, to produce the first ten plates of *Birds of America* before a labor strike caused Audubon to seek printers in London. There the specialized labor force of engravers, etchers, printers, and colorists were readily available, as were copper plates and paper in the “double elephant folio” size (39 ½ x 29 ½ inches), the largest commercially available sheets at the time.¹⁵ In London he found the respected printer Robert Havell, Sr. (1769-1832), who convinced his son, Robert Havell, Jr. (1793-1878) to return to the

family business and collaborate on the enormous project in 1827. The younger Havell soon assumed overall responsibility for production and printing of the colorplates.

Between 1826 and 1838, Audubon crossed the ocean four times, travelled from Labrador to Texas in search of birds (including two trips through Montgomery),¹⁶ produced half of the watercolors for *Birds of America*, and with William MacGillivray (1796-1852), a Scottish naturalist, wrote and published the five-volume letterpress *Ornithological Biography* to accompany the 435 colorplates.¹⁷ He purchased a few bird skins from western explorers, and in some later drawings his sons and other assistants rendered the birds' habitats. Indeed, Robert Havell, Jr. was a skilled artist who often assembled Audubon's drawings of several specimens into a single composition, especially when Audubon was forced to mix depictions of different species on a single sheet to complete the project without creating too many more plates than the 400 he had originally advertised in his prospectus for subscriptions.¹⁸

Subscription was the common method of the day for the production of colorplate publications. Subscribers, who included the Library of Congress and the U. S. State Department, committed to all or part of the publication and paid for a "number" when it was delivered. A number included five plates, typically one large bird, one medium-sized bird, and three plates of smaller birds—each on double elephant folio sheets. Each number was distributed unbound in a tin case. On average, five numbers were published annually at a cost of about \$10 each, or \$2 per print. The complete edition cost approximately \$1000. Audubon recommended that subscribers purchase portfolios for storage of their prints, or bind them for protection and convenience. Once all the colorplates were finished, he offered complete sets bound in three volumes of 100 plates each and a fourth volume of 135 plates. Only about 200 complete sets of the colorplate edition were ultimately published.¹⁹

The process of duplicating Audubon's paintings in colorplate prints was complex and time-consuming. Artisans used tracing paper to transfer the outlines of drawings to copper plates. "Subjects were first etched in outline and then tonal areas [were] established by aquatint in shades of gray," aquatint being "the print medium that most successfully replicates the transparent washes and luminous tones of a watercolor."²⁰

An excellent description of the next steps is provided by Joseph Goddu, head of the department of American prints at Hirschl & Adler Galleries:

Once "outlined," the plates were ready for the more detailed etching to be done, which would be followed by the painstaking process of laying down the delicate veils of aquatint tone. It was at these early stages that Robert Havell, Jr.'s mastery came into play. With great artistic skill and admirable creative suppleness, he provided landscape and floral backgrounds where they were lacking, enhanced compositions by re-positioning birds, integrated multiple drawings into single compositions, or alternatively, took a drawing crowded with too many subjects and created two balanced and appealing plates from it. With consummate mastery, he used etching and aquatint to indicate shadow and form, and replicate the myriad nuances present in the original watercolors, the soft texture of the feathers, the scaling of the legs, the delicate veining of the leaves and flowers, etc. As it is difficult to create more than a few intermediary tones before the ground breaks up under repeated bitings, Havell accomplished his most delicate work by carefully applying acid directly to the plate; discrete application with the tip of a feather worked best—hence the term "feathering" came into use.... It is generally believed that the artistry Havell brought to bear on Audubon's book represents the finest work in aquatint ever achieved."²¹

When the etching was complete, a hand-painted master proof was prepared for Audubon's approval. "The black and white print would then be finished by hand in watercolors, in exact imitation of the original," with "coloring done...by as many as fifty people" who were closely supervised by Havell, Audubon, or his sons.²²



The 435 plates of the double-elephant portfolio are unprecedented and unsurpassed among ornithological publications, each print capturing the character of its subject—as well as the bird's natural habitat—with great fidelity while imbuing it with vitality and the distinctive personality of the species. Audubon's typical depiction of males and females, dorsal and ventral views as well as profiles, and Havell's delicately nuanced tones and colors are nowhere seen to better effect than in the *Black-Bellied Darter* (*Plotus Anhinga*), better known as the Snake-bird (left: MMFA, 2011.14).

Havell produced the striking, life-size colorplate of one of America's largest and most distinctive waterfowl in his London print shop in 1836.²³ This large, hand-colored aquatint and engraving features two long-necked waterfowl perched high on a tree stump in the foreground with a pond or riverine setting behind them. Two similar birds stand on a tree branch which projects from the water in the middle distance and three more swim in the blue-black water behind them—one in the distant slough. Beyond the water is a grey, forested shoreline above which hangs a peach-colored haze. The background of the upper half of the composition is blank, providing a clear contrast with the colors, contours, and especially the sinuous necks and long, pointed beaks of the two birds in the foreground.



The colorplate is based on a watercolor (left) by Audubon in the New-York Historical Society (N-YHS) that shows only the two birds and tree stump in the foreground without any background.²⁴ The N-YHS dates that watercolor "1822; 1836." The N-YHS also owns a study for this work that is dated 1822 (right). That study is inscribed, "Drawn by John J. Audubon from Nature / New Orleans 1822." Audubon's inscriptions on that study also record the weight and dimensions of the bird and: "Black Bellied Darter or Snake Bird / *Plotus Melanogaster* / *Bec a Lancette* Common name." Between 1822 and 1836, Audubon corrected the Linnaean nomenclature for the bird to *Plotus Anhinga*, and he commented at length on its common names in his *Ornithological Biography*:

"Being a bird which, by its habits, rarely fails to attract the notice of the most indifferent observer, it has received various names. The Creoles of Louisiana...call it 'Bec a Lancette,' on account of the form of its bill; whilst at the mouth of the [Mississippi] river it bears the name of 'Water Crow.' In the southern parts of Florida, it is called the 'Grecian Lady,' and in South Carolina its is best known by the name of 'Cormorant.' Yet in all these parts it bears also the name of 'Snake-bird;' but it is nowhere...called the Black-bellied Darter,' which, by the way, could only be with strict propriety applied to the adult male."²⁵



Both works above: *Collection of the New-York Historical Society; purchased for the Society by public subscription from Mrs. John J. Audubon*

Audubon called the Snake-bird “the very first of all fresh water divers.” He reported, “with the quickness of thought it disappears beneath the surface, and that so as scarcely to leave a ripple on the spot; and...you are astonished to find it many hundred yards distant, the head perhaps merely above water for a moment; or...the bill alone gently cutting the water.” He refuted:

“the generally received opinion...that the Anhinga always swims with its body sunk beneath the surface...for it does so only when in sight of an enemy...when...it sinks its body deeper [and deeper]...until at last it swims off with the head and neck only above the surface, when these parts, from their form and peculiar sinuous motion, somewhat resemble the head and part of the body of a snake. It is in fact from this circumstance that the Anhinga has received the name of Snake-bird.”

He added that when perched, “a bird so remarkable in form and manners, the Aningas, or “Grecian Ladies,” stand erect, with their wings and tail fully or partially spread out in the sunshine, whilst their long slender necks and heads are thrown as it were in every direction by the most curious and sudden jerks and bendings.”

Audubon also noted the bird’s “decided preference to rivers, lakes, bayous, or lagoons...always however in the lowest and most level parts of the country. The more retired and secluded the spot, the more willingly does the Snake-bird remain about it.” He described their nests as “always over water.” Moreover, “When it swims beneath...the water, it spreads its wings partially, but does not employ them as a means of propulsion, and keeps its tail always considerably expanded, using the feet as paddles either simultaneously or alternately.” When fishing, “it dives precisely like a Cormorant, returns to the surface as soon as it has procured a fish...shakes it, if it is not too large often throws it up into the air, and receiving it conveniently in the bill, swallows it at once, and recommences its search.” He was astonished by “the quantity of fish consumed by this bird.... It would devour a meal of forty or more fishes about three inches and a half long.”

Finally, the ornithologist observed that “if disturbed...they fly with continuous beats of the wings, and proceed with great velocity...as long as they are flying, their wings are directly extended, their neck stretched to its full length, their tail more or less spread according to the movements to be performed.” Audubon’s depictions of the Snake-bird do not show any in flight. He probably felt that their swimming and perching habits, especially the jerking of the head and neck, were more characteristic traits that his insightful portrait of the species should record for posterity.

Today the Robert Havell copperplate edition of *Birds of America* is recognized as “arguably the most important natural history publication of all time and the “grandest and most sumptuous colorplate folio ever produced.”²⁶ Indeed, original Havell editions of *Birds of America* have sold at auction recently for more than \$8 million, making it the most expensive book in the world. Its popularity has caused one museum/library that owns a complete set of all four volumes to feature a daily page turning. Another repository with a complete set has made it virtually accessible through the Internet.²⁷ Only eighty of the copperplates have survived, but all 435 of the original watercolors are preserved at the New-York Historical Society including one (plus a study) of the peculiar American Anhinga, better known as the Snake-bird.

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¹ Holly Hotcher, in Annette Blaugrund and Theodore Stebbins, Jr., eds., *Audubon Watercolors* (New York: New-York Historical Society, 1993), vii, states that “Audubon has received more attention than almost any other American artist: more than twelve biographies document his life and career.” The standard references for Audubon and *Birds of America* are: Blaugrund and Stebbins, Jr., eds., *John James Audubon: The Watercolors for the Birds of America* (New York: New-York Historical Society, 1993); Alice Ford, *John James Audubon* (Norman: University of Oklahoma Press, 1964); Ella M. Foshay, *John James Audubon* (New York: Harry N. Abrams in association with the National Museum of American Art, Smithsonian Institution, 1997); Waldemar H. Fries, *The Double Elephant Portfolio: The Story of Audubon’s Birds of America* (Chicago: American Library Assoc., 1973); Joseph Goddu, *John James Audubon & Robert Havell, Jr.: Artist’s Proofs for “The Birds of America”* (New York: Hirschl & Adler Galleries, 2002); and Richard Rhodes, *John James Audubon: The Making of an American* (New York: Alfred A. Knopf, 2004).

² Rhodes, *Making of an American*, 4. Scholars conjecture that Audubon’s illegitimate birth may have motivated the misinformation he and his descendents disseminated later in his life; including claims that he was the Lost Dauphin of France.

³ Rhoads, *Making of an American*, 7.

⁴ For Audubon’s early business enterprises, see Blaugrund, “The Artist as Entrepreneur,” in Blaugrund and Stebbins, *Audubon Watercolors*, 27-28.

⁵ Rhoads, *Making of an American*, 166.

⁶ Foshay, *Audubon*, 31.

⁷ The document dissolving the partnership is recorded in Francis Hobart Herrick, *Audubon The Naturalist: A History of His Life and Time* (New York and London: Appleton and Co., 1917), vol. 2, 359.

⁸ Foshay, *Audubon*, 26.

⁹ Foshay, *Audubon*, 28.

¹⁰ Theodore E. Stebbins, Jr., “Audubon’s Drawings of American Birds, 1805-1838,” in Blaugrund and Stebbins, 12, indicates that Audubon generally made a drawing a day but a Bald Eagle took two days.

¹¹ Quote from Theodore E. Stebbins, Jr., “Audubon’s Drawings of American Birds, 1805-1838,” in Blaugrund and Stebbins, *Audubon Watercolors*, 12. Stebbins also equated Audubon with his European contemporaries J. M. W. Turner and Samuel Palmer.

¹² John James Audubon, “An Account of the Method of Drawing Birds,” *Edinburg Journal of Science* 8, no. 15 (Nov.-Apr. 1828), 49, quoted in Foshay, *Audubon*, 44.

¹³ Foshay, *Audubon*, 40.

¹⁴ The Audubon Society, founded in 1886, was the first conservation organization established in the United States. Audubon shot for sport as well as science and food, and he was an outspoken critic of senseless slaughter of wildlife.

¹⁵ Blaugrund in Blaugrund and Stebbins, *Audubon Watercolors*, 37, indicates that the paper “of the finest quality” was the largest then available and states it was chosen to accommodate life-sized depictions of the largest birds. Edward H. Bwight, *Audubon Watercolors and Drawings* (New York: Munson-Williams-Proctor Institute and Pierpont Morgan Library, 1965), 33, points out that Paris was the only other city printing colorplates of comparable quality at the time.

¹⁶ Fries, *Double Elephant Folio*, 101-3, indicates that Audubon left Charleston for Augusta by train on 17 February 1837, then by coach to Montgomery where on February 19 or 20 he recorded a lengthy account of Creek warriors in chains after the Seminole War. He proceeded by boat to Mobile and New Orleans, where he embarked on a two-month expedition along the Louisiana and Texas coastlines on the U. S. Revenue Service Cutter Campbell. He returned to New Orleans on 27 May, thence to Mobile, Montgomery, Columbus, Augusta, and Charleston.

He continued to Washington, Baltimore, Philadelphia, and New York, selling subscriptions en route, and landed in Liverpool 16 July 1837.

¹⁷ Blaugrund in Blaugrund and Stebbins, *Audubon Watercolors*, 35. The descriptive text for *Birds of America* was printed separately from the colorplates because British law required publishers to place copies of every letterpress book in public libraries in England.

¹⁸ See Blaugrund, in Blaugrund and Stebbins, *Audubon Watercolors*, 34-36, for an example showing Audubon's original watercolor of the Barred Owl combined with a drawing of an Eastern Grey Squirrel in a composition engraved by Havell.

¹⁹ Blaugrund, *Audubon Watercolors*, 37-8, provides a concise discussion of the particulars of the colorplates sales and distribution.

²⁰ Joseph Goddu, *Artist's Proofs*, 14. According to Blaugrund, *Audubon Watercolors*, 37, "The aquatint process consists of treating a copperplate with a porous resin ground that is then heated, cooled, and etched. It achieves a distribution and range of tones where the acid has bitten between the resin grains. Where the acid bites briefly, it prints lightly, while a deeper bite catches more ink and prints a darker tone."

²¹ Goddu, *Artist's Proofs*, 24-5.

²² First quote from Goddu, *Artist's Proofs*, 14; second from Blaugrund, *Audubon Watercolors*, 37.

²³ Fries, *Double Elephant Folio*, 400, says that nos. 59-68, plates 291-340, were completed in 1836.

²⁴ The watercolor in the collection of the New-York Historical Society is illustrated at <http://www.nyhistory.org/node/30867>. It is dated by N-YHS "1822; 1836" and is described as "watercolor, black ink, graphite, pastel, and collage with scraping and selective glazing on paper, laid on card; 37 ¼ x 24 ¼ inches; Male, above; female, below...Earlier version, done in 1822 in N-YHS collections (1863.18.34); Havell engraving also includes a water scene added to the background."

²⁵ See http://web4.audubon.org/bird/BoA/F41_G2a.html (accessed 1 August 2012) for this and subsequent quotations from *Ornithological Biography*.

²⁶ Goddu, *Artist's Proofs*, 7. Goddu also cites S. T. Prideaux, *Aquatint Engraving: A Chapter in the History of Engraving* (London: 1909), 296-7, which calls *Birds of America* "the most sumptuous work to which aquatint was ever applied in illustration." In the 1840s, lithography displaced colorplate printing technology and Audubon issued later versions of *Birds of America* with lithographed illustrations. In 1844, Audubon completed an octavo edition in seven volumes with Philadelphia lithographer J. T. Bowen that was issued to 2000 subscribers. Five more octavo editions were completed through 1877. These integrated the text from the *Ornithological Biography* and increased the number of plates to 500, separating some birds which had originally appeared together and adding new drawings, mostly by John Woodhouse.^(Wiki) The Bien Edition of 105 plates was published in 1858 by Roe Lockwood in New York under the supervision of Audubon's sons, but due in part to the Civil War the edition was never finished. Fewer than 100 subscriptions were sold, making this edition more rare than other early editions.

²⁷ The University of Pittsburgh Library System owns one of the rare, complete sets of *Birds of America* and presents the complete double elephant folio set, accompanied by Audubon's *Ornithological Biography*, through this Web site: <http://digital.library.pitt.edu/a/audubon/> (accessed 26 July 2012). Together these sets constitute an unprecedented online combination.