

# Jefferson's Ornithology Reconsidered<sup>1</sup>

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The contributions of Thomas Jefferson (1743–1826; Figure 1) to American science have been extolled by many authors; however, the extent to which he can legitimately be called an ornithologist has been a matter of some debate.<sup>2</sup> It is well known that his famous work, *Notes on the State of Virginia*, written and prepared in 1781–1783 and initially printed and distributed privately in France in 1785–1786, contained a table of 125 American bird species.<sup>3</sup> Jefferson's table cross-referenced the colloquial names of all species that he knew to inhabit Virginia with the Latin binomials of Carl Linnaeus (1707–1778), the pre-Linnaean Latin descriptors of Mark Catesby (1682/1683–1749), and reference numbers published by Georges-Louis Leclerc, Comte de Buffon (1707–1788).

However, a mere compilation of names given by previous authors makes for a rather meager contribution to the nascent science of ornithology. At a time when “doubtless many [species] which [had] not yet been described and classed” in America awaited description, Jefferson did not produce evidence of any new species, or even any novel information about the species already known.<sup>4</sup> Elsa Guerdrum Allen (1888–1969), celebrated historian of early American ornithology, was of this mind when she praised Jefferson's breadth of interest, yet nevertheless concluded: “It now seems probable that the eminence of the writer in other fields in which he worked has led critics to ascribe an ornithological learning to Jefferson in excess of what he really had.”<sup>5</sup>

The word “ornithology” is derived from the Greek *logos* (use of reason or logic) and *ornitho* (of or relating to birds). Ornithologists use the scientific method to reveal new facts about the natural world

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1 Adapted from a presentation given 7 October 2015 at the American Philosophical Society Museum for the *Jefferson, Science, and Exploration* exhibition.

2 See, e.g., A. Feduccia, *Catesby's Birds of Colonial America* (Chapel Hill: University of North Carolina Press, 1985); and S. A. Bedini, *Thomas Jefferson: Man of Science* (New York: Macmillan, 1990).

3 J. Holt, “The First American Bird Checklist,” *Cassinia* 72/73 (2014): 16–26.

4 T. Jefferson, *Notes on the State of Virginia* (Paris, 1785).

5 E. G. Allen, “The History of American Ornithology before Audubon,” *Proceedings of the American Philosophical Society* 41 (1951): 532–34.

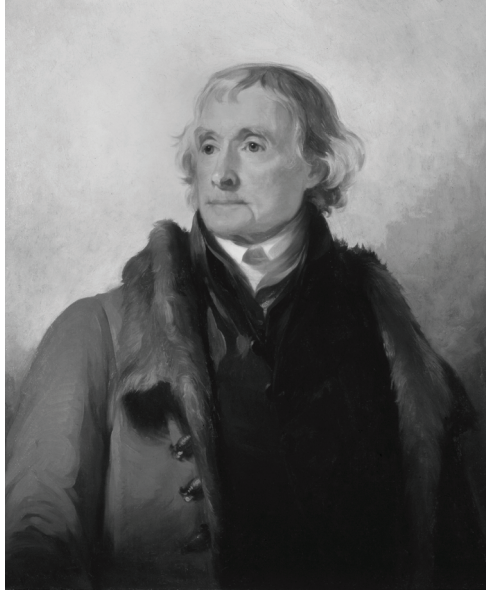


FIGURE 1. Oil portrait of Thomas Jefferson (1743–1726), painted by Thomas Sully (1783–1872) and issued in 1821. Image reproduced in black and white from the collection of the American Philosophical Society (Curatorial no. 58.P.12).

through the study of living birds (wild and captive) and/or curated collections of nonliving specimens. Was Jefferson's knowledge gained in part through study of living birds and/or specimens, or was he merely bookish? Did he take steps to remove the subjective bias of his observations? Did he make any lasting contributions to ornithological knowledge or attempt to publish any original research? Any fair assessment of Jefferson's ornithological prowess must consider these questions.

I reviewed the primary sources relating to Jefferson's interest in and knowledge of birds, chronologically, including unpublished memoranda and draft copies of the famous table in *Notes on the State of Virginia*.<sup>6</sup> These novel sources reveal a depth to Jefferson's ornithology that previous authors failed to appreciate. Jefferson was indeed a competent ornithologist. However, in order to understand his practice in context, one must look beyond his published table and evaluate the extent of his knowledge, the means by which he acquired it, and the factors that motivated that interest.

<sup>6</sup> The unpublished drafts of Jefferson's table, preserved in the Coolidge Collection at the Massachusetts Historical Society, Boston, Massachusetts, were briefly discussed by Lucia Stanton in "Thomas Jefferson and Virginia's Natural History," *Banisteria* 41 (2013): 5–16.



FIGURE 2. Cropped image of the Mocking-bird (*Turdus polyglottus*) from Plate 10 of Alexander Wilson's *American Ornithology*, vol. 2 (1810). The species is now known as the northern mockingbird (*Mimus polyglottos*). Image reproduced courtesy of the Library of the Academy of Natural Sciences of Drexel University (QL681.W732).

### JEFFERSON THE ORNITHOLOGIST

Jefferson was 28 years old on January 1, 1772 when he married the love of his life, Martha Wayles Skelton (1748–1782), daughter of the Virginian lawyer and slave trader John Wayles (1715–1773). At the time, Jefferson had a successful law practice and concurrently was serving as a delegate in the House of Burgesses, representing Albemarle County, Virginia. The newlyweds lived at Jefferson's large plantation at Monticello, and it was, by most accounts, one of the happiest periods of his life.<sup>7</sup> In November 1772 Jefferson purchased a live northern mockingbird (*Mimus polyglottos*) for five shillings from a slave at his new father-in-law's plantation, and he purchased two more the following year.<sup>8</sup> Mockingbirds were (and are) highly regarded for the complexity of their vocal repertoires and for their exceptional ability to learn and mimic sounds in their environment, especially the songs of other bird species (Figure 2). During Jefferson's time, adult mockingbirds

<sup>7</sup> D. Malone, *Jefferson and His Time, Volume 1: Jefferson, the Virginian* (Boston: Little, Brown & Co., 1948).

<sup>8</sup> All three sales were recorded in T. Jefferson, *Jefferson's Memorandum Books: Accounts, with Legal Records and Miscellany, 1767–1826* (Princeton: Princeton University Press, 1997), 297, 343, and 508, respectively.

and their nestlings were captured in the wild for this very reason, to be trained and sold as cage birds. According to the ornithologist Alexander Wilson (1766–1813), mockingbirds that were hand-reared and trained to recite familiar melodies fetched more at market, and the “eagerness with which the nest of the Mocking-bird [was] sought after in the neighborhood of Philadelphia . . . rendered this bird extremely scarce for an extent of several miles around the city.”<sup>9</sup> Recreational (unlicensed) trapping and commercial sale of migratory songbirds would eventually become a federal crime in the United States, but during Jefferson’s time, the practice was legal, common, and unregulated.<sup>10</sup>

One cannot discuss the mockingbirds of Monticello without acknowledging their dark twin. There also were enslaved humans at Monticello, 52 of whom had been owned by Jefferson’s father and were willed to Jefferson in 1767, and another 135 who Jefferson inherited after the death of John Wayles in 1773. Despite his lofty rhetoric, Jefferson did not grant them liberty.<sup>11</sup> The songs of caged mockingbirds may have been, to outsiders, symbolic of Jefferson’s wealth, intelligence, and civility, but to his slaves, they were probably a constant reminder of the breadth of their master’s dominion and their own despairing condition. The caged bird would later emerge as a potent and sobering symbol of American racism.<sup>12</sup> Although the extent of Jefferson’s hypocrisy on the issue of slavery does not bear directly upon his ornithology, slavery was an integral part of the Monticello scene in the 1770s and early 1780s, and this was the setting of Jefferson’s most active ornithological period.

Jefferson compiled his knowledge of the cultural and natural history of Virginia in response to a questionnaire that the secretary of the French legation, François Barbé-Marbois (1745–1837), circulated among American legislators in late 1780. Jefferson submitted a preliminary manuscript (now thought lost or destroyed) to Barbé-Marbois in December 1781 that likely contained only partial answers to the query and probably no information about birds. Jefferson included his table

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9 A. Wilson, *American Ornithology*, vol. 2 (Philadelphia: Bradford & Inskeep, 1810).

10 *Migratory Bird Treaty Act of 1918* (16 U.S.C. 703–12; Ch. 128; July 13, 1918; 40 Stat. 755).

11 W. Cohen, “Thomas Jefferson and the Problem of Slavery,” *Journal of American History* 56 (1969): 503–26.

12 See, e.g., P. L. Dunbar, “Sympathy,” in *Lyrics of the Hearthside* (New York: Dodd, Mead & Co., 1899); H. Lee, *To Kill a Mockingbird* (New York: J. P. Lippincott & Co., 1960); and M. Angelou, *I Know Why the Caged Bird Sings* (New York: Random House, 1969).

of bird species in a "corrected and enlarged" draft in 1783, which first appeared in print in 1785–1786.<sup>13</sup>

Some of Jefferson's ornithological manuscripts, however, were omitted from the final draft, and they contained critical information that could not be gleaned from the published table. Jefferson had been collecting bird specimens in the summer of 1782, during a time of great personal tragedy.<sup>14</sup> His beloved wife Martha was on her deathbed, having never recovered from the delivery, four months earlier, of their sixth child. She passed away on September 6, 1782, and five days later, Jefferson's mind was inexplicably focused on the minutia of ornithology, as he penned the following entry in his *Garden Book*, dated September 11, 1782:

W. Hornsby's method of preserving birds

Make a small incision between the legs of the bird; take out the entrails & eyes, wipe the inside & with a quill force a passage through the throat into the body that the ingredients may find a way into the stomach & so pass off through the mouth. fill the bird with a composition of  $\frac{2}{3}$  common salt &  $\frac{1}{3}$  nitre pounded in a mortar with two tablespoons of black or Indian pepper to a pound. hang it up by its legs 8 or 10 weeks, & if the bird be small it will be sufficiently preserved in that time. if it be large, the process is the same, but greater attention will be necessary.<sup>15</sup>

The morbidity of this passage, which was the very first entry in his *Garden Book* after Martha's death, has not been lost on modern scholars.<sup>16</sup> Jefferson's sudden interest in ornithology was probably an intellectual distraction, a way to productively cope with the immense grief he felt during his wife's downward spiral. Unpublished manuscripts from the preparation of *Notes on the State of Virginia* reveal that Jefferson had begun collecting birds earlier that summer, in the weeks after Martha's labor. On July 24, 1782, he compared the morphology of two songbird species, now known as the yellow-breasted chat

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13 D. L. Wilson, "The Evolution of Jefferson's Notes on the State of Virginia," *Virginia Magazine of History and Biography* 112 (2004): 98–133.

14 To my knowledge, no previous author has acknowledged that Jefferson collected bird specimens, although he is widely regarded for having compiled Virginia's first bird checklist. See, e.g., D. W. Johnston, *The History of Ornithology in Virginia* (Charlottesville and London: University of Virginia Press, 2003).

15 See page 25 of Jefferson's *Garden Book*, Coolidge Collection, Massachusetts Historical Society, Boston, transcribed by R. C. Baron, ed., in *The Garden and Farm Books of Thomas Jefferson* (Golden, CO: Fulcrum, 1987); and F. M. Brodie, *Thomas Jefferson: An Intimate History* (New York: W. W. Norton & Co., 2010).

16 See, e.g., F. M. Brodie, *Thomas Jefferson: An Intimate History* (New York and London: W. W. Norton & Company, 1974), 169–70.

(*Icteria virens*) and red-eyed vireo (*Vireo olivaceus*), to the accounts of Catesby,<sup>17</sup> with a level of detail (including weight) that could only have been acquired by securing specimens of his “subjects”:

Another subject. July 24. Catesby’s Yellow-breasted Chat

Differences from the *Parus flavus*

1. neither is the 1st pair of tail feathers edged with white nor the 1st 2nd & 3rd pair one quarter white. 2. The throat and breast are bright yellow (feathers brown at their base), but without (brown) spots (near summits). 3. The belly a dead white. 4. The legs are lead coloured. 5. It weighs 18<sup>dwt</sup> [28 g]. 6. From the nostrils runs a white stripe over the eye & returns under it to the base of the upper mandible.

*Muscicapa oculis rubris*. Catesby 54

Red-eyed Flycatcher. July 24, 1782.

It weighed 11<sup>dwt</sup> [17 g]. The legs & feet were of a fine sky-blue. The rest of the description answered well.

Jefferson’s reference to a species called *Parus flavus* is peculiar, as that name has never been proposed in ornithological literature, nor can it be found in Jefferson’s own table. The explanation is found in another unpublished document. Jefferson had collected specimens of two species that he thought were entirely new to science, and was so convinced of their novelty that he prepared rough and final drafts of formal scientific descriptions, complete with new Linnaean names (one was *P. flavus*). The formatting of these drafts reflected Jefferson’s influences. His accounts began with a binomial Linnaean name, followed by a detailed description (in Latin) of the morphological characteristics of the species. It seems that Jefferson picked this up from Linnaeus, as neither Catesby nor Edwards began their accounts in this way.<sup>18</sup> Jefferson was a supporter of the Linnaean system, not because it was inherently better than other systems, but because it came first and the natural sciences required stability. He later explained this view in a letter to John Manners on February 22, 1814.

17 M. Catesby, *Natural History of Carolina, Florida and the Bahama Islands*, 2 vols. (London: P. Collinson, 1731, 1743).

18 Jefferson’s decision to begin his species account with a paragraph in Latin was probably influenced by C. Linnaeus, *Fauna Svecica* (Stockholm: Laurentii Salvii, 1761), a work that was in Jefferson’s personal library and contained Latin accounts of birds not unlike those in his unpublished species accounts. On page 68 of Jefferson’s “1783 Catalog of Books” [written c. 1775–1812, housed in the Coolidge Collection at the Massachusetts Historical Society], “Linnaei Fauna Svecica 8<sup>vo.</sup>” is written in brown ink with the same degree of fading as the page title, suggesting that the book had been acquired by Jefferson in the late 1770s, in time to have been of use as he prepared his ornithological manuscripts in 1782.

[Linnaeus's] system was accordingly adopted by all, and united all in a general language. It offered the three great desiderata: First, of aiding the memory to retain a knowledge of the productions of nature. Secondly, of rallying all to the same names for the same objects, so that they could communicate understandingly on them. And Thirdly, of enabling them, when a subject was first presented, to trace it by its character up to the conventional name by which it was agreed to be called . . . Disciples of Linnaeus, of Blumenbach, and of Cuvier, exclusively possessing their own nomenclatures, can no longer communicate intelligibly with one another . . . They would have rendered greater service by holding fast to the [Linnaean] system on which we had once all agreed, and by inserting into that such new genera, orders, or even classes, as new discoveries should call for.<sup>19</sup>

Following Catesby's format, Jefferson then split the page into two columns.<sup>20</sup> On the left, he described (in English) the species' behavior and made comparisons to similar species, and he kept the right column blank, presumably for a French translation (as in Catesby). Here is the new species that Jefferson discovered, but alas, chose not to share (Figure 3):

*Parus flavus*. The Yellow Titmouse.

rostrum capite brevius. mandibula superior apice sub-incurvata, basi setis tecta, sub-olivacea. nares longitudinales. caput et dorsum sordide olivacea. rectrices XII, pedibus longiores, laterales duae margine exteriore albidae, 1.2.3. utrinque a medio apicem versus albidae pone. relique, cit et remiges subnigrae, fimbria exteriore olivaceae. gula, pectus, et abdomen flava, frisco maculata, pennis prope basin penitus fuscis. ~~pedes atro-olivacea~~, digitus 3. anticus, s. postico.

The bill is shorter than the head: the upper mandible a little hooked at the point, of a brown colour inclined to olive: the nostrils longitudinal: the head & back of a dingy olive: the wings & tail brown above & below, the exterior vane of each feather in them edged with olive except the first pair of tail-feathers which is edged with white: the interior vane of the 1<sup>st</sup>. 2<sup>d</sup>. & 3<sup>d</sup> pair of tail-feathers is white from near their summits halfway or two-thirds towards their base. The tail-feathers are longer than the legs, XII in number & of equal lengths. The throat, breast & belly quite to the tail are of a bright yellow externally, but their tail-feathers brown at their base, & some of them with a brown spot near their summit which shews

19 J. Jefferson Looney, ed., *The Papers of Thomas Jefferson*, Retirement Series, vol. 7, 28 November 1813–30 September 1814 (Princeton: Princeton University Press, 2010), 207–11.

20 Catesby, *Natural History*.

x11/2

*Parus flavus.* the yellow titmouse.

Rostrum capite brevius. mandibula superior apice sub-incurva-  
ta, basi setis tecta, sub-olivacea. nares longitudinales. caput et dorsum  
vordide olivacea. Rectrices XII, pediculis longiores, laterales duae margine  
exteriore albidae, 1. 2. 3. a trinque a medio apicem versus albidae prope.  
reliquae, ut et remiges subnigrae, fimbria exteriore olivaceae. gula,  
pectus, et abdomen flava, fusco maculata, penult <sup>proprie</sup> basin penitus  
fuscis. ~~pedes atro-olivacei~~, digitus 3. anterioris, 1. postico.

The bill is shorter than the head:  
the upper mandible a little hooked at  
the point of a brown colour inclined  
to olive: the nostrils longitudinal:  
the head & back of a dingy olive: the  
wings & tail brown above & below, the ex-  
terior vane of each feather <sup>in the</sup> ~~is~~  
with olive except the first pair of tail-  
feathers which is edged with white:  
the ~~lower part~~ interior vane of the  
1<sup>st</sup>. 2<sup>d</sup>. & 3<sup>d</sup> pair of tail feathers is white  
from <sup>near</sup> their summits half way or two-  
thirds towards their base. the tail-  
feathers are longer than the legs,  
XII in number & of equal lengths.  
the throat breast & belly quite to the  
tail are of a bright yellow externally,  
but the feathers ~~are~~ brown at their  
base, & some of them <sup>with</sup> ~~have~~ a brown spot  
near their summit which shews.  
the legs are of a brownish olive: the feet  
have 3 toes before & 1. behind.  
it weighs <sup>2 1/2 gr</sup> 3-15. and the subject weighed <sup>2 1/2</sup> 6.

This differs from Catesby's *Parus Americanus lutescens* or Pine-

FIGURE 3. "Notes about the bird the yellow titmouse." 16 cm x 9.7 cm. Unpublished loose memoranda for *Notes on the State of Virginia* [manuscript] from the Coolidge Collection of Thomas Jefferson Manuscripts, Massachusetts Historical Society. Reproduced with permission.



[sic]. The legs are of a brownish olive: The feet have 3. toes before & 1 behind. It weighs 3<sup>dwt</sup>–15<sup>gr</sup> [6 g]. Another subject weighed 6<sup>dwt</sup> [9 g].<sup>21</sup>

This differs from Catesby's *Parus americanus lutescens* or Pine-creeper 1. as being less if not half the size. 2. having its belly of the colour of the throat & breast & not white. 3. no spots of white on the wings. 4. the three first pairs of tail-feathers one-quarter white. 5. the upper mandible with a row of hairs at the base on each side & the tongue terminated with hairs which fixes it in the genus of *Pari*, whereas Catesby's seems to be understood as without these by Dr. Linnaeus who makes it the *Certhia pinus*, *Picarum ordinis*.

Jefferson provided a greater level of detail than any account by Catesby, such that could only have been obtained via close examination of a specimen. Which species did he describe? The three keys to identifying Jefferson's *Parus flavus* are the low given weight (6–9 g), which is suggestive of a wood warbler (family Parulidae) or some other small passerine; the entirely yellow throat, belly, and undertail coverts (“gula, pectus, et abdomen flava,” “not white”); and “the three first pairs of tail-feathers one-quarter white.” Only one bird in eastern North America fits Jefferson's description: the eastern subspecies of palm warbler (*Setophaga palmarum hypochrysea*) in non-breeding (winter) plumage (Figure 4). The name *flavus* was a reference to the yellow ventral surface of the bird, and Jefferson's supposition that the species had not yet been formally described (as of 1782/1783) was partially correct. Buffon had described the western subspecies (now known as *Setophaga p. palmarum*) in 1778, though Buffon's bird had a dirty white belly, whereas Jefferson's bird was the same shade of yellow from the throat to under the tail.<sup>22</sup> Notably, Buffon did not provide a Linnaean name for the species, and neither did John Latham (1740–1837), who based his “Palm Warbler” on Buffon's account.<sup>23</sup> Johann Friedrich Gmelin (1748–1804) eventually gave the species the name *palmarum* in the 13th edition of Linnaeus's *Systema Naturae* (1789), four years after the first publication of *Notes on the State of Virginia* (1785). Therefore, had Jefferson included the account of *Parus flavus* in his final draft, that name would now hold taxonomic priority. In fact, it would be more than a century before the eastern subspecies collected by Jefferson in 1782 (*S. p. hypochrysea*) was finally described to science

21 In his rough draft of this account, the date “July 1st” was written after these measurements. Based on the other dated documents in this collection, the year was probably 1782.

22 G. L. C. de Buffon, *L'Histoire Naturelle des Oiseaux*, vol. 5 (Paris: Imprimerie Royale, 1778), 330.

23 J. Latham, *A General Synopsis of Birds*, vol. 2, part 2 (London: Leigh & Sotheby, 1783), 493.



FIGURE 4. (Above) Western palm warbler (*Setophaga palmarum palmarum*) in non-breeding plumage, photographed by Hart Rufe in Saint Lucia. (Below) Eastern palm warbler (*S. p. hypochrysea*), in non-breeding plumage, photographed by Blake Goll at Rushton Woods Preserve, Chester County, Pennsylvania. Reproduced with permission of the photographers.



FIGURE 5. Cropped image of the Tyrant (*Muscicapa Corona rubra*) from Plate 55 of Catesby's *Natural History of Carolina, Florida and the Bahama Islands*, vol. 1 (London: P. Collinson, 1731). The species is now known as eastern kingbird (*Tyrannus tyrannus*). Image reproduced from the collection of the Library of the Academy of Natural Sciences of Drexel University (QH41.C35).

by Robert Ridgway (1850–1929).<sup>24</sup> If Jefferson had published *P. flavus* in 1785, we would probably call the species “Jefferson’s Warbler” today—an improvement, in my opinion, as the species has no special affinity to palms (family *Arecaceae*).

In another unpublished account, Jefferson described the species now known as eastern kingbird (*Tyrannus tyrannus*), supposing it to be new. This species had already been described by Catesby (Figure 5) and Linnaeus, but they disagreed with each other about taxonomic placement and their descriptions were lacking in detail.<sup>25</sup> Eventually, Jefferson’s name *stellata*, had it been published, would have been declared a synonym of *tyrannus*. Notwithstanding, Jefferson’s laudable description included more anatomical detail than Linnaeus, Catesby, or Edwards:

*Hirundo Stellata*. The Star-martin or Feild-martin.<sup>26</sup>

Hirundo, capite, dorso, cauda nigricantibus, frontis pennis extus capite-concoloribus, sed, maris, versus basin croceis: gula, pectore, et ventre albidis. alae tectrices et remiges nigricantes supra magis quam infra. rectrices XI, apicibus albae, laterales duae et aliquando plures margine eatiore longitudinalites albae. pedes piones nigri, tetradactyli, digitus tribus anticus, uno postico.

The head, back & upper side of the wings are of a dark brown; the tail still darker above, but less so below, as is the underside of the wings. The throat, breast & belly white. The quill & scapulary feathers edged with white. The tail feathers are XI rather lengthening towards the middle, tipped with white & the exterior vane of the first pair, and sometimes of more of them, edged in like manner. The legs are almost black, have three toes before & one behind. The male weighs 24½ dwt [38.1 g] and is distinguished by a star in his forehead the feathers of which are of a saffron color towards their base, but at their summits of the color of the head, so that the star is concealed except when he raises his crest. The hen is without this,<sup>27</sup> her colour a lighter brown, and weighs 26½ dwt [41.2 g].

They are enemies to birds of every form, waging eternal war with them, but more especially with eagles, hawks & crows. They insult

24 R. Ridgway, “On Geographical Variation in *Dendroeca palmarum*,” *Bulletin of the Nuttall Ornithological Club* 1 (1876): 81–87.

25 Catesby, *Natural History*, vol. 1, 55, see Fig. 5; and C. Linnaeus, *Systema Naturae*, vol. 1 (Stockholm: Impensis Laurentii Salvii, 1758), 94.

26 Jefferson was consistent with his awkward spelling of “Feild-martin.”

27 Jefferson was wrong on this point, in that the red crest is indicative of age rather than sex. The plumage lacking the red crest is worn by both sexes during their first year of life, and the crest is subsequently gained when they molt after their first season as breeders. For more detail, see P. Pyle, *Identification Guide to North American Birds*, part 1 (Bollinas: Slate Creek Press, 1997).

even men who approach their haunts. They live on insects, & are particularly destructive of bees. They are not seen with us in the winter.

Catesby describes a bird under the name of *Muscicapa corona rubra*, or Tyrant, whose manners & habits agree perfectly with those of our Feild-martin, as does also the singular red spot in the head; from whence I am not without suspicion that the Feild-martin might be intended under that description. On the other hand 1. there is no similitude between the figure of his Tyrant & our Feild-martin. 2. the upper mandible of the Feild-martin is hooked at the point, ~~which~~ and not emarginated which determines it of the genus *hirundinum* & not of the Muscicapae. 3. the opinion of Dr. Linnaeus must weigh who makes Catesby's Tyrant the *Lanius tyrannus* of the order of Accipitres to which order our Feild-martin cannot possibly be ascribed.<sup>28</sup>

This was not the only instance in which Jefferson took issue with Catesby's descriptions. In another unpublished document, with the heading "Birds and other animals of Virginia undescribed by Catesby & annotations on some of his articles," Jefferson corrected Catesby's account of the roosting behavior of the species now known as northern bobwhite (*Colinus virginianus*):

*Perdix sylvestris virginiana*. The American Partridge. La Perdrix Ameriquaine. Catesby says they covey and roost on trees, then which nothing can be more erroneous. It is scarcely possible to make them fly into a tree. They keep always on the ground, where they rest during the night in so small a compass that a considerable flock may be covered with a hat.

Jefferson's personal experience with birds, in the field, played a critical role in the development of his ornithological knowledge. Moreover, he was systematic in his observations and augmented his knowledge by comparing his own data to the published accounts of previous authors. Jefferson's systematic approach is illustrated in an unpublished table, in which he listed the parts of the body vertically on the left, then filled in details to the right of each left-aligned heading (Figure 6). That some headings had no subsequent data suggests that

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28 Jefferson's suspicion that his specimen might be the same as Catesby's "Tyrant" was correct, but considering that Catesby's illustration omitted one of the most conspicuous plumage traits—the white-tipped tail—Jefferson's hesitation to identify it as such was reasonable. His second and third points about the generic classifications of Catesby and Linnaeus were also reasonable, when one considers that the nomenclature of the kingbirds would not be resolved until the early 19th century. See, e.g., C. L. Bonaparte, "Observations on the Nomenclature of Wilson's Ornithology," *Journal of the Academy of Natural Sciences* 4 (1824): 163–66.



Head	upper mandible	conical, somewhat angulated highest on the middle. sharp, a little bent at the point, smooth
	lower	
	nostrils	flat, wedge-shaped, cartilaginous
	tongue	
	eyes	black & prominent
	tongue	none any where
	beard	
neck	ne	
Body	back	
	shoulders	
	breast	
	belly	
wings	tetrices	
	remiges	
Feet	legs	flesh-coloured
	feet	climbing, 3 toes before 1 behind
Tail	rectrices	
	rectrices	
Weight	about 5 or 6 <sup>dwt.</sup>	
Colour		The <del>upper side of</del> neck, back, tail (above) dusky olive. The head (several) <del>three</del> stripes of white on an olive background. <del>The white stripes</del> The throat belly & tail below ash-coloured.

This bird is not described by Catesby & ~~very difficult~~ scarcely reducible to any of Linnaeus' genera. The shape of the tongue excludes it from the Order of Picae. It must fall then into the Passeres. ~~Having no whiskers nor hairs at the base of the bill~~ it is scarcely admissible into the genus of *Ampelis* because I believe the tongue is integral, not bifid. qu. as to *Loxia* & *Tanagra* it has no whiskers nor hairs at the base of the bill.

With the Linnaean method, Jefferson “[traced the species] by its character up to the conventional name by which it was agreed to be called,” although in this case no conclusion was drawn.<sup>29</sup> The anisodactyl arrangement of the toes (“3 toes before 1 behind”) is indicative of the order Passeriformes, and the weight (8–9 g, “about 5 or 6<sup>dwt</sup>”) points to a species about the size of a small wood warbler (family Parulidae). There is one such bird that fits Jefferson's description

<sup>29</sup> Looney, *Papers of Thomas Jefferson*, 207–11.



FIGURE 7. Cropped image of the female Golden-winged Warbler (*Vermivora chrysoptera*) from Plate 1 of C. L. Bonaparte's *American Ornithology; or, the Natural History of Birds Inhabiting the United States, Not Given by Wilson*, vol. 1 (Philadelphia: Carey, Lea & Carey, 1825), based on an original drawing by Titian R. Peale (1799–1885), engraved by Alexander Lawson (1772–1846). Image reproduced from the collection of the Library of the Academy of Natural Sciences of Drexel University (QL681.B66).

reasonably well, including a head with “(several) ~~three~~ stripes of white on an olive background,” and an “ash-colored” throat, belly, and undertail coverts (feathers): the female golden-winged warbler (*Vermivora chrysoptera*).

Jefferson was right that Catesby had not described it. William Bartram (1739–1823) collected the first specimen (a male), which George Edwards (1694–1773) depicted in *Gleanings of Natural History* (1760). Six years later, Linnaeus gave the species the name *chrysoptera* and based his description on Edwards's account. However, males and females of this species look so strikingly different that, without prior knowledge, one might think that they were actually two species. Jefferson was not familiar with the male golden-winged warbler as he neither included it in his table of birds in *Notes on the State of Virginia*, nor in the brief “Besides these we have” addendum to the table.<sup>30</sup> Remarkably, the female golden-winged warbler would evade the hands of American ornithologists (including Wilson) until 1824, when Titian Peale (1799–1885) shot one near Camden, New Jersey. Peale's illustration, engraved by Alexander Lawson (1773–1846) and published in 1825 by Charles Lucien Bonaparte (1803–1857), is the earliest known image of the female golden-winged warbler (Figure 7). In light of Jefferson's ornithology papers, Bonaparte's words must now

<sup>30</sup> Jefferson, *Notes on the State of Virginia*.

be amended: "The female of this pretty little Warbler, hitherto unknown to any naturalist [except Jefferson], is now figured and described for the first time."<sup>31</sup>

We may never know why Jefferson omitted the manuscripts of *Parus flavus* and *Hirundo stellata* from his final submission to Barbé-Marbois. Moreover, he did not even mention that he had collected specimens of some of the "doubtless many [species] which have not yet been described and classed."<sup>32</sup> Nevertheless, it seems that Jefferson's devotion to ornithology was not for the sake of fame or glory; many ornithologists have described new species with far less evidence.

#### AN AMERICAN ORNITHOLOGIST IN PARIS

By the time Jefferson went to France in 1784, he possessed a more intimate knowledge of American birds than almost any living person, acquired not merely via the sparse literature then available, but through actual study of living and nonliving birds.<sup>33</sup> Jefferson, who had never met Buffon (Figure 8), devoted no fewer than 45 pages in *Notes on the State of Virginia* to the refutation of the elder naturalist's theory that American animals were inferior to those of Europe, having become degenerate under the effects of the American climate. Buffon had first presented his theory in 1761, and then expanded it in the 1770s.<sup>34</sup> The two men met for the first and only time during the first week of January, 1786, after Jefferson, at 42 years old, sent a package to Buffon, who was 78 and in poor health, with the skin of an eastern cougar (*Puma concolor cougar*) from Pennsylvania.<sup>35</sup> Buffon responded on

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31 C. L. Bonaparte, *American Ornithology; or, the Natural History of Birds Inhabiting the United States, not given by Wilson*, vol. 1 (Philadelphia: Carey, Lea & Carey, 1825).

32 Jefferson, *Notes on the State of Virginia*.

33 The one man more versed in American ornithology than Jefferson was William Bartram (1739–1823) of Philadelphia. See, e.g., J. Magee, *The Art and Science of William Bartram* (Philadelphia: University of Pennsylvania Press, 2007).

34 G. L. C. de Buffon, *Histoire Naturelle*, vol. 9 (Paris: Imprimerie Royale, 1761).

35 The origin of the cougar pelt was later revealed by Jefferson in a letter to Francis Hopkinson (1737–1791) of Philadelphia. On November 8, 1786, Hopkinson sent Jefferson the severed leg of a "strange Bird which has nothing curious in it but a fine small toothed Comb annexed to one of its Toes, and three very beautiful Feathers (of which I send two) growing out of the Top of the Head." Julian P. Boyd, ed., *The Papers of Thomas Jefferson*, vol. 10, 22 June–31 December 1786 (Princeton: Princeton University Press, 1954), 511–13. The bird seems to have been a heron of some sort (family Ardeidae), which have pectinate (comb-bearing) toes and long nuptial plumes. Jefferson replied in a letter dated December 23, 1786: "You must not presume too strongly that your comb-footed bird is known to M. de Buffon. He did not know our panther. I gave him the stuffed skin of one I bought in Philadelphia and it presents him a new species, which will appear in his next volumes," 625–26.



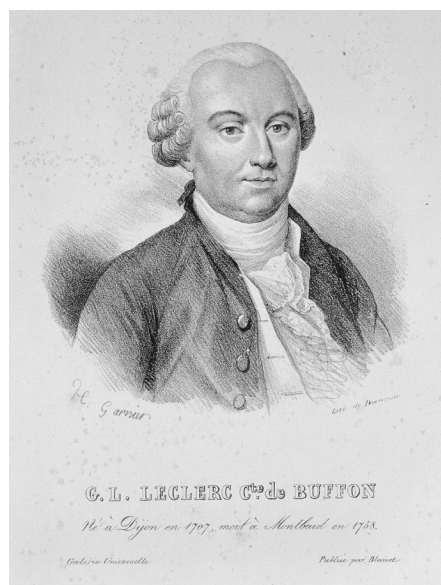


FIGURE 8. Lithograph portrait of Georges-Louis Leclerc, Comte de Buffon (1707–1788); created by H. Garnier, lithograph by Ducarme. Image reproduced from the collection of the American Philosophical Society (Old Call Number: RF B865.g4 E).

December 31, 1785, with an invitation to dinner at Jardin du Roi, the botanical garden in Paris:

In the Garden of the King the 31. Xbre. 1785.

M. de Buffon gives many thanks to Monsieur Jefferson for the skin of the animal he has had the goodness to send him. If his health would permit him, M. de Buffon would have the honor of going to show him his gratitude, but as he can not go out, he hopes that Monsieur Jefferson will come with M. de Chastelux to dinner at the Jardin. will suit them.

This Cougar of Pensilvania [*sic*] differs from that which has been described by M. Colinson only because it has the body shorter in about the ratio of 13 to 16. It also has the shorter tail, it seems to hold the medium for the grandeur between the Colgar's Cougar and that of South America. A thousand compliments and respects.<sup>36</sup>

One week later, on January 7, 1786, Jefferson wrote to Archibald Cary and confirmed that the dinner took place: "In my conversations with the Count de Buffon on the subjects of natural history, I find him absolutely unacquainted with our elk or deer. He has hitherto believed

<sup>36</sup> Julian P. Boyd, ed., *The Papers of Thomas Jefferson*, vol. 9, 1 November 1785–2 June 1786 (Princeton: Princeton University Press, 1954), 130–31.

that our deer never had horns more than a foot long . . .” Many of the examples put forth by Buffon, in support of his theory, had been size comparisons of North American and European mammals.<sup>37</sup> Furthermore, Buffon perpetuated the fallacy championed by Oliver Goldsmith (1728–1774)<sup>38</sup> that the songs of American birds (except the mockingbird) were likewise inferior to their European counterparts:

Nous trouvons dans cet oiseau singulier, une exception frappante à une observation générale faite sur les oiseaux du nouveau monde. Presque tous les Voyageurs s'accordent à dire qu'autant les couleurs de leur plumage sont vives, riches, éclatantes, autant le son de leur voix est aigre, rauque, monotone, en un mot désagréable. Celui-ci est au contraire, si l'on en croit Fernandez, Nieremberg et les Américains, le chantre le plus excellent parmi tous les volatiles de l'Univers, sans même en excepter le rossignol . . .<sup>39</sup>

Jefferson became acquainted with the nightingale (*Luscinia megarhynchos*), Europe's most celebrated songster, during the 1785 breeding season in Paris, a few months before his meeting with Buffon. He was eager to weigh in on Buffon's theory of American degeneracy. Jefferson wrote in a letter to Abigail Adams (1744–1818), dated June 21, 1785: “I heard there the Nightingale in all its perfection: and I do not hesitate to pronounce that in America it would be deemed a bird of the third rank only, our mockingbird, and fox-coloured thrush being unquestionably superior to it.”<sup>40</sup> Two years later, Jefferson embellished his

37 See, e.g., Jefferson's summary of Buffon's theory in *Notes on the State of Virginia*: “The opinion advanced by the Count de Buffon [G. L. C. de Buffon, *Histoire Naturelle*, vol. 18 (Paris: Imprimerie Royale, 1775), 100–56], is 1. That the animals common both to the old and new world, are smaller in the latter. 2. That those peculiar to the new are on a smaller scale. 3. That those which have been domesticated in both, have degenerated in America: and 4. That on the whole [America] exhibits fewer species. And the reason he thinks is, that the heats of America are less; that more waters are spread over its surface by nature, and fewer of these drained off by the hand of man. In other words, that heat is friendly, and moisture, adverse to the production and development of large quadrupeds.”

38 O. Goldsmith, *An History of the Earth, and Animated Nature*, vol. 5 (London: J. Nourse, 1774), 324–25.

39 Buffon, *Histoire Naturelle*, vol. 18, 325. The following English translation by William Smellie (1740–1795) was taken from *The Natural History of Birds from the French of the Count de Buffon*, vol. 3 (London: Strahan and Cadell, 1793), 288: “We have here a striking exception to the general remark made by travelers, that in proportion as the plumage of the birds in the New World are rich, elegant, and splendid, so their notes are harsh, raucous, and monotonous. The Mocking Bird is, on the contrary, if we believe Fernandez, Nieremberg, and the native Americans, the sweetest chorister of the feathered race, not excepting the Nightingale.”

40 The “fox-coloured thrush” refers to the brown thrasher (*Toxostoma rufum*), a close relative of the mockingbird (family Mimidae). Like the mockingbird, thrashers have large vocal repertoires and are known for their mimicry of other birds. The letter was quoted in Julian P. Boyd, ed., *The Papers of Thomas Jefferson*, vol. 8, 25 February–31 October 1785 (Princeton: Princeton University Press, 1953), 239–42.

thoughts about the nightingale in a letter to William Short, written in Toulouse on May 21, 1787:

I have had some days of superb weather, enjoying two parts of the Indian's wish, cloudless skies and limpid waters: I have had another luxury which he could not wish, since we have driven him from the country of Mockingbirds, a double row of nightingales along the banks of the canal, in full song. This delicious bird gave me another rich treat at Vacluse. Arriving there a little fatigued I sat down to repose myself at the fountain, which, in a retired hollow of the mountain, gushes out in a stream sufficient to turn 300 mills, the ruins of Petrarch's chateau perched on a rock 200 feet perpendicular over the fountain, and every tree and bush filled with nightingales in full chorus. I find [Filippo] Mazzei's observation just that their song is more varied, their tone fuller and stronger here than on the banks of the Seine. It explains to me another circumstance, why there never was a poet North of the Alps, and why there never will be one. A poet is as much the creature of climate as an orange or palm tree. What a bird the nightingale would be in the climates of America! We must colonize him thither.<sup>41</sup>

Many attempts were made to introduce the common nightingale and other European birds into North America in the late 19th and early 20th centuries. The successful introductions of the house [English] sparrow (*Passer domesticus*), first released in New York in 1850, and European starling (*Sturnus vulgaris*), released in 1890–1891, caused unforeseen havoc. Starling crop damage in the United States has been estimated to exceed \$800 million annually.<sup>42</sup> However, it would not be fair to judge Jefferson for lacking an evolutionary or ecological framework with which to interpret his knowledge. His practice of ornithology had a social dimension, and was not done for the sake of knowledge alone. It was a patriotic enterprise, and another way to discredit Buffon's theory. On May 21, 1787, the same day Jefferson wrote the above letter to Short, he dwelt on the same topic in a letter to his daughter Martha:

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41 Julian P. Boyd, ed., *The Papers of Thomas Jefferson*, vol. 11, 1 January–6 August 1787 (Princeton: Princeton University Press, 1955), 371–73. Incidentally, John James Audubon (1785–1851) attempted the opposite experiment in 1833, according to a brief remark in a letter to his wife Lucy: "We are collecting living Mocking Birds for us to take to England." H. Corning, ed., *Letters of John James Audubon*, vol. 1 (Boston: Club of Odd Volumes, 1930), 267. It is not known whether Audubon succeeded in that endeavor.

42 See, e.g., J. C. Phillips, "Wild Birds Introduced or Transplanted in North America," *U.S. Department of Agriculture Technical Bulletin* 61 (1928), 1–64; and G. M. Linz, Homan, H. J., Gaulker, S. M., Penry, L. B., and Bleier, W. J., "European Starlings: A Review of an Invasive Species with Far-reaching Impacts," *Managing Vertebrate Invasive Species: Proceedings of an International Symposium* (2007): 378–86.

To add to the enchantment of the scene, every tree and bush was filled with nightingales in full song. I think you told me you had not yet noticed this bird. As you have trees in the garden of the convent, there must be nightingales in them, and this is the season of their song. Endeavor, my dear, to make yourself acquainted with the music of this bird, that when you return to your own country you may be able to estimate it's [*sic*] merit in comparison with that of the mocking bird. The latter has the advantage of singing thro' a great part of the year, whereas the nightingale sings but 5. or 6. weeks in the spring, and a still shorter term and with a more feeble voice in the fall.<sup>43</sup>

Six years later, Jefferson was living in Philadelphia, during his tenure as the first Secretary of State of the United States, when he learned from a letter that a wild mockingbird had been observed at Monticello. This was apparently the first time the species had been detected there since he settled in the early 1770s, and Jefferson's delight was palpable. On June 10, 1793, he responded to his daughter Martha Jefferson Randolph:

I sincerely congratulate you on the arrival of the Mocking bird. Learn all the children to venerate it as a superior being in the form of a bird, or as a being which will haunt them if any harm is done to itself or it's [*sic*] eggs. I shall hope that the multiplication of the cedar in the neighborhood, and of trees and shrubs round the house, will attract more of them: for they like to be in the neighborhood of our habitations, if they furnish cover.<sup>44</sup>

Jefferson was elected President of the United States in 1800, and he left Philadelphia to take up residence in Washington, the new national capital. He furnished the Presidential Mansion (now the White House) with two new mockingbirds, purchased on May 31 and November 17, 1803, respectively.<sup>45</sup> A firsthand description of these birds, written by his friend Margaret Baynard Smith (1778–1844), was published in 1906:

It was a spacious room . . . In the window recesses were stands for the flowers and plants which it was his delight to attend and among his roses and geraniums was suspended the cage of his favorite mocking-bird, which he cherished with peculiar fondness, not only for its melodious powers, but for its uncommon intelligence and affectionate disposition, of which qualities he gave surprising

43 Boyd, *Papers of Thomas Jefferson*, vol. 11, 369–70.

44 "Letter to Martha Jefferson Randolph," June 10, 1793, in *The Papers of Thomas Jefferson* (Princeton: Princeton University Press, 1950), 26: 250.

45 Both sales were recorded in *Jefferson's Memorandum Books*, vol. 2, 1101 and 1112, respectively.

instances. It was the constant companion of his solitary and studious hours. Whenever he was alone he opened the cage and let the bird fly about the room. After flitting for a while from one object to another, it would alight on his table and regale him with its sweetest notes, or perch on his shoulder and take its food from his lips. Often when he retired to his chamber it would hop up the stairs after him and while he took his siesta, would sit on his couch and pour forth its melodious strains. How he loved this bird!<sup>46</sup>

#### ALEXANDER WILSON AND THE MYSTERY BIRD

In March 1805, as Jefferson began his second term as President of the United States, he received a letter from Alexander Wilson (Figure 9), describing two birds that Wilson collected in October 1804 on the Mohawk River in central New York. Jefferson also received a sketch, which has now been lost or destroyed, and a second letter from his friend, William Bartram (1739–1823), vouching for Wilson's discoveries.<sup>47</sup> Wilson presumed the two species, now called Canada jay (*Perisoreus canadensis*) and northern shrike (*Lanius excubitor*), had not yet been described by scientists, and he was eager to entreat Jefferson for his learned opinion. However, without specimens or drawings of these birds for comparison, Wilson and Bartram had been forced to rely on the written descriptions of previous authors to identify them. Wilson mentioned the similarity of the peculiar jay to Linnaeus's *Corvus canadensis*, the account that still holds taxonomic priority for that species,<sup>48</sup> as well as Buffon's account of *Le Geay Brun du Canada*.<sup>49</sup> He noted, however, that his specimen was different "in the colour and article of crest so much as to seem to be a distinct species." In a reply dated April 7, 1805, Jefferson wrote that although he was not familiar with that jay in America, he could "conclude with confidence that [it] was not a European bird."

Of Wilson's other peculiar specimen, which "was of a much purer white, above, than any [Wilson had] since met with,"<sup>50</sup> Bartram correctly noted its similarity to "the Butcher Bird *Lanius Excubitor* Linn." (i.e., northern shrike). Jefferson concurred, and explained that

46 M. Baynard Smith, *The First Forty Years of Washington Society* (London: T. Fisher Unwin, 1906).

47 Transcriptions of both letters were printed by C. Hunter, *The Life and Letters of Alexander Wilson* (Philadelphia: American Philosophical Society, 1983).

48 Linnaeus, *Systema Naturae*, 12th ed., vol. 1 (Stockholm: Laurentii Salvii, 1766), 158.

49 Buffon, *Histoire Naturelle*, vol. 18, 117.

50 A. Wilson, *American Ornithology*, vol. 1 (Philadelphia: Bradford and Inskeep, 1808), 75.

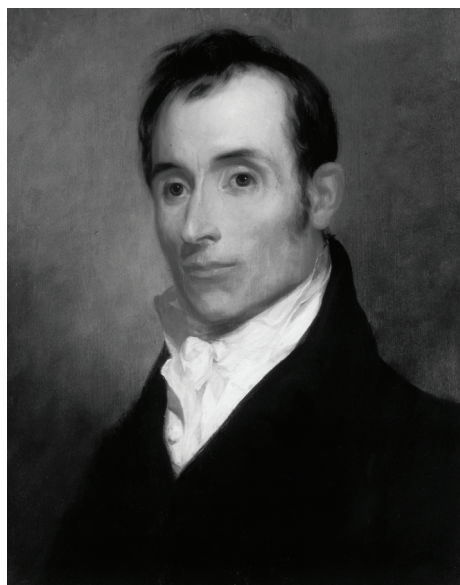


FIGURE 9. Oil portrait of Alexander Wilson (1766–1813), attributed to Thomas Sully (1783–1872) and painted c. 1812. Reproduced in black and white from the collection of the American Philosophical Society (Curatorial no. 58.P.31), who received it as a gift from Dr. Nathaniel Chapman in 1822.

he had examined a specimen of the same species procured by his neighbor in Virginia:

the only difference I find in yours is that the white on the back is not so pure, and that the one I saw had a little of a crest. Your figure, compared with the white bellied Gobemouche 8. Buff. 342 Pl. enlum 566. shews [*sic*] a near relation. Buffon's is dark on the back.

In modern times, the northern shrike is occasionally seen in Virginia during winter, corroborating Jefferson's claim of having examined a specimen from that region.<sup>51</sup> However, Wilson apparently doubted Jefferson's southerly record, as he did not mention it in his account of that species in the first volume of *American Ornithology* (1808). He also doubted that the European species described by Linnaeus was, as Bartram supposed, the same species found in America.<sup>52</sup> Finally, Jefferson presented a puzzle to Wilson in the form of an inquiry about a mysterious bird:

<sup>51</sup> See the range map in D. A. Sibley, *The Sibley Field Guide to Birds of Eastern North America* (New York: Alfred A. Knopf, 2003).

<sup>52</sup> See Wilson, *American Ornithology*, vol. 1, 74, especially the question mark that follows the specific epithet.

As you are curious in birds there is one well worthy your attention, to be found or rather heard in every part of America, & yet scarcely ever to be seen. It is in all the forests, from spring to fall, and never but on the tops of the tallest trees from which it perpetually serenades us with some of the sweetest notes, & as clear as those of the nightingale. I have followed it miles without ever but once getting a good view of it. It is the size & make of the Mockingbird, lightly thrush-coloured on the back, & a greyish-white on the breast & belly. Mr Randolph, my son in law, was in possession of one which had been shot by a neighbor. He pronounces this also a muscipapa, and I think it much resembling the Moucherolle de la Martinique 8. Buffon 374. Pl. enlum. 568. As it abounds in all the neighborhood of Philadelphia, you may perhaps by patience & perseverance (of which much will be requisite) get a sight, if not a possession of it. I have for 20. years interested the young sportsmen of my neighborhood to shoot me one, but as yet without success. Accept my salutations & assurances of respect. Th: Jefferson.

Wilson, eager to please the “condescending and very intelligent” President Jefferson, wasted no time in writing to Bartram to discuss the identity of the mystery bird. In a letter dated April 18, 1805, Wilson wrote:

Mr. Jefferson speaks of a very strange bird. Please let me know what it is. I shall be on the look-out, & he must be a sly fellow if he escape me. I shall watch his motion and the sound of his serenade pretty closely, to be able to transmit to our worthy President a faithful sketch of a bird which he has been so long curious to possess.<sup>53</sup>

In a subsequent letter to William Duncan dated May 8, 1805, Wilson recounted Bartram's opinion that the mystery bird was the wood robin (Figure 10), now known as the wood thrush (*Hylocichla mustelina*), but expressed doubt about Bartram's identification:

Mr. Bartram can give no account of this bird, except it be the Wood Robin, which I don't think it is; for Mr. Jefferson says, '*it is scarcely ever to be seen*'; and '*I have followed it for miles without ever, but once, getting a good view of it.*' I have been on the look-out ever since, but in vain.

Wilson was still pondering the identity of Jefferson's mystery bird on July 2, 1805, when he wrote to Bartram: “I have never been able to find the bird Mr. Jefferson speaks of, and begin to think that it must be the Wood Robin, though it seems strange that he should represent it as

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53 Hunter, *Life and Letters of Alexander Wilson*.



FIGURE 10. Cropped image of the Wood Thrush (*Turdus Melodus*) from Plate 2 of Alexander Wilson's *American Ornithology*, vol. 1 (1808). The species is now known as the wood thrush (*Hylocichla mustelina*). Image reproduced courtesy of the Library of the Academy of Natural Sciences of Drexel University (QL681.W732).

so hard to be seen.” However, despite his reservations, Wilson eventually replied to Jefferson on September 30, 1805, feigning certainty:

Sir, I had the honour last spring of presenting your Excellency with drawings of two Birds which I suppos'd to be both non descripts untill [*sic*] the receipt of your very condescending Letter to me of Ap. 7th. referring to 8 Buffon 342. Pl. enlum. 566. which I find to contain a Bird of the same Species with one of those sent but unnoticed by me before. Allow me Sir as an atonement for this mistake once more to beg your acceptance of another Sheet of Drawings being my poor efforts to represent faithfully 4 of our most capital Songsters among which is (I believe) the Bird so particularly and accurately described in your Excellency's Letter to me.<sup>54</sup> This being

54 In his transcription of this letter from the original manuscript, in *Life and Letters of Alexander Wilson*, Hunter indicates that Wilson included a footnote that read, “See the uppermost figure in the drawing.” Alas, the drawing referenced by Wilson here, and by Jefferson himself in his *Catalogue of Paintings &c. at Monticello* (“62. The Singing birds of Virginia, the uppermost inedited [*sic*] by Wilson”), is probably lost forever. In a letter in the Monticello Curatorial Files dated October 15, 1929, sent from Fanny M. Burke, a descendant of Jefferson, to Fiske Kimball, who was then in charge of the restoration of Monticello, Burke wrote: “The picture of the mocking-bird is copied from a watercolor painting, of the five thrushes of America, the Mocking-bird, the Cat-bird, Sandy-mockingbird [brown thrasher], Robin and Wood Robin. Painting by Wilson the Ornithologist for Mr. Jefferson. My Grandfather [Nicholas P. Trist, husband of Jefferson's granddaughter Virginia Randolph Trist] bought the painting at the sale, at Monticello, and not being willing to take it to Cuba, sent it to his brother Browse Trist, at their sugar-plantation 'Bowden' in Louisiana. There it hung over the parlor mantelpiece; till the place was burned; I suppose by Butler's troops, during the Civil War. Great-uncle Browse had told my mother to take the picture, when she was visiting there several years before she was married, but she would not take it, she would not



the only Bird I can find among all our Songsters corresponding in every respect with the description there given. The clearness and plaintive Sweetness of its notes—its shy solitary disposition—continually serenading us from the tops of the tallest trees—its colour size and resemblance to the Moucherolle de la Martinique of Buffon, as observed by your Excellency, designate this, (and my friend Mr Bartram is of the same opinion) to be the Bird so justly esteemed by your Excellency.<sup>55</sup>

Jefferson was apparently convinced that the mystery bird was indeed the wood robin, as evidenced by a note written on April 26, 1807, in a notebook: “Incognito, or Wood Robin.”<sup>56</sup> But was that the true identity of the mystery bird? Jefferson was apparently only familiar with one American species of thrush with a spotted breast, which he included in his *Notes on the State of Virginia* checklist: Catesby’s “Little Thrush *Turdus minimus*.” Catesby’s little thrush was unlikely to have been anything but an eastern hermit thrush (*Catharus guttatus faxoni*), although some authors have speculated that it was a wood thrush, or even a gray-cheeked thrush (*C. minimus*).<sup>57</sup> The mystery bird may have

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dismantle his parlor. I hope one of the Yankees had the sense to take it out, before the house was burned, and that it may still be in existence, but fear it was destroyed. Mother’s first cousin Willie Trist (Willamena) copied the mocking-bird for her, and it is an exquisite piece of work.”

55 Hunter, *Life and Letters of Alexander Wilson*.

56 Stanton, “Thomas Jefferson and Virginia’s Natural History,” 9.

57 Feduccia, in *Catesby’s Birds of Colonial America*, wrote: “Although conceivably a Wood Thrush from the description and certain characteristics, Catesby’s Little Thrush is simply not identifiable” (101). Stanton, in “Thomas Jefferson and Virginia’s Natural History,” wrote, “Catesby’s *Natural History* included only the Gray-cheeked Thrush” (9, footnote 15). However, Catesby wrote in *Natural History of Carolina, Florida and the Bahama Islands* (London: P. Collinson, 1731), “In shape and colour it agrees with the Description of the European Mavis, or Song-Thrush, differing only in Bigness; this weighing no more than one Ounce and a quarter [i.e., < 35 g]. It never sings, having only a single Note, like the Winter-Note of our Mavis. It abides all the Year in Carolina. They are seldom seen, being but few, and those abiding only in dark Recesses of the thickest Woods and Swamps. Their Food is the Berries of Holly, Haws, &c.” (31). The hermit thrush is the only member of its genus to winter in the Carolinas, at which time of year it is frugivorous and does not typically sing; see Gross in A. C. Bent, *Life Histories of North American Thrushes, Kinglets, and Their Allies* (New York: Dover Publications, 1949). Further, the weight provided by Catesby is just right for a hermit thrush that has been eating berries, but too light to be a wood thrush, which weigh on average 38.8 g with no fat and 45.2 g with fat; see, e.g., Yong, W., and Moore, F. R., “Relation between Migratory Activity and Energetic Condition among Thrushes (Turdinae) following Passage across the Gulf of Mexico,” *Condor* 95 (1993): 934–43. Catesby’s speculative assertion that the bird “abides all the year” probably reflects his ignorance of bird migration; see W. Bartram, *Travels through North and South Carolina, Georgia, East and West Florida, the Cherokee Country, the Extensive Territories of the Muscogulges or Creek Confederacy, and the Country of the Chactaws. Containing an Account of the Soil and Natural Productions of Those Regions; Together with Observations on the Manners of the Indians* (Philadelphia: James & Johnson, 1790), 284. Incidentally, Catesby’s and Bartram’s Latin names were suppressed by the International Commission on Zoological Nomenclature

been a wood thrush, but it seems more likely that it was one of several species that had yet to be formally described—the veery (*C. fuscescens*), Swainson's thrush (*C. ustulatus swainsoni*), or gray-cheeked thrush—or an amalgamation of the three.<sup>58</sup> Wilson's intuition was correct; the wood thrush is not as shy and elusive as the smaller woodland thrushes.<sup>59</sup> It is also peculiar that Jefferson never mentioned, in his description of the mystery bird, that it had bold spots on the breast, which is the most conspicuous field mark of the wood thrush. Rather, his physical description of the bird and its behavior are a better match to the veery or the gray-cheeked thrush, which are “lightly thrush-coloured on the back, & a greyish-white on the breast & belly.”<sup>60</sup>

Bartram knew more about thrushes than anyone else in America at the time, and even he was deeply confused about how many species there were at the time of the correspondence with Jefferson about the mystery bird.<sup>61</sup> Neither ornithologist yet realized that the little thrush was also an amalgamation of multiple species. In 1808, Wilson became the first to distinguish two species of “Little Thrush” in eastern North America, which he called the hermit thrush *Turdus solitarius* and tawny thrush *Turdus mustelinus*.<sup>62</sup> In summary, there is ample reason to

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and are now taxonomically invalid (ICZN, Opinion 447, 1957), because they were inconsistent and variable with their (proto-Linnaean) use of trinomial epithets.

58 M. R. Halley, “The Ambiguous Identity of *Turdus mustelinus* Wilson, and a Neotype Designation for the Veery *Catharus fuscescens* (Stephens),” *BOC Bulletin* 138 (2018): 78–91.

59 F. M. Chapman, *Handbook of Birds of Eastern North America* (New York: D. Appleton and Company, 1900), 395, wrote: “The Wood Thrush is not so distinctively a bird of the woods as the Veery. Well-shaded lawns are sometimes graced by his presence, and at all times he is more familiar and easier to observe than his retiring relative.” By contrast, the secretive habits of the veery have long obscured some critical aspects of its life history, e.g., M. R. Halley, Heckscher, C. M., and Kalavacharla, V., “Multi-generational Kinship, Multiple Mating, and Flexible Modes of Parental Care in a Breeding Population of the Veery (*Catharus fuscescens*), a Trans-hemispheric Migratory Songbird,” *PLoS ONE* 1 (2016): e0157051.

60 Hunter, *Life and Letters of Alexander Wilson*.

61 Wilson convinced Bartram in 1807 (two years after the correspondence with Jefferson) that the wood thrush and little thrush were different species by comparing fresh specimens to plate 296 in G. Edwards, *Gleanings of Natural History*, vol. 2 (London, 1760). In *American Ornithology*, vol. 1, Wilson wrote: “But Mr. Edwards has also described and delineated the Little Thrush, and has referred to Catesby as having drawn and engraved it before. Now this Thrush of Edwards I know to be really a different species; one not resident in Pennsylvania, but passing to the north in May, and returning the same way in October, and may be distinguished from the true Song Thrush (*Turdus Melodus*) by the spots being much broader, brown, and not descending below the breast. It is also an inch shorter, with the cheeks of a bright tawny color. Mr. William Bartram, who transmitted this bird, more than 50 years ago, to Mr. Edwards, by whom it was drawn and engraved, examined the two species in my presence; and on comparing them with the one in Edwards, was satisfied that the bird there figured and described is not the Wood Thrush (*Turdus Melodus*), but the tawny cheeked species above mentioned . . . A figure and description of this passenger Thrush will appear in an early part of the present work.”

62 See A. Wilson, *American Ornithology*, vol. 5 (Philadelphia: Bradford and Inskeep,

suspect—as Wilson did—that Jefferson's mystery bird was not the wood thrush, or even one species at all, but a curious mixture of attributes from multiple species that had not yet been distinguished by naturalists.

## CONCLUSIONS

When his second term as President of the United States ended on March 4, 1809, Jefferson retired to a simpler life at Monticello. On April 25, he wrote to Étienne Lemaire in Georgetown:

. . . my grandson, Jefferson, whom you will find at Peale's Museum, will pay you for these things on your shewing [*sic*] him this letter. my [mocking] birds arrived here in safety & are the delight of every hour . . . I am constantly in my garden or farm, as exclusively employed out of doors as I was within doors when at Washington, and I find myself infinitely happier in my new mode of life.<sup>63</sup>

Grief over the untimely death of Wilson on August 23, 1813, at the age of 40, reverberated in the scientific community for years, and the event would have a profound impact on the development of American ornithology (Figure 11). Four and a half years later, when Jefferson was elected a member of the Academy in January 1818, he responded with a letter of thanks that demonstrated a humble gratitude and self-awareness. Jefferson implicitly acknowledged that, relative to Wilson and other prolific Academy members, he did not deserve the honor based on scientific merit: "At an earlier period of life I might have endeavored to deserve it in fact, but now can only do it by good wishes for it's [*sic*] success, & by assurances that I should be gratified by any occasion of being useful to it."<sup>64</sup>

However, notwithstanding his modesty, Jefferson's ornithological activities were more substantive than scholars heretofore have appreciated. In addition to his celebrated checklist of American birds, Jefferson collected specimens in the field, studied the minute details of their plumage and structure, and then, presumably using "W. Hornsby's method of preserving birds," prepared specimens for later study. He

1812). In fact, both of these species were also amalgamations: *T. solitarius* was a composite of the taxa now known as *C. guttatus faxoni* and *C. ustulatus swainsoni* (see T. M. Brewer, "Minutes from the Meeting Held on July 18, 1844," *Proceedings of the Boston Society of Natural History* 1: 190–91), and *T. mustelinus* Wilson was a composite of *C. fuscescens* and *C. minimus*. See Halley, "Ambiguous Identity."

63 J. Jefferson Looney, ed., *The Papers of Thomas Jefferson*, Retirement Series, vol. 11, 4 March–15 November 1809 (Princeton: Princeton University Press, 2004), 161–62.

64 The unpublished letter is preserved in the collection of Robert B. Haines III (Ms. Coll.1011.359), in the Quaker and Special Collections, Haverford College Library (Haverford, PA).



FIGURE 11. “Swedish Lutheran Church,” drawn by Thomas Sully (1783–1872), and engraved and printed in 1828 by Cephas G. Childs and B. Rogers, respectively. The image, published in a book of landscapes, *Views of Philadelphia* (1827–1830), was Sully’s homage to his lamented friends, Bartram and Wilson, the fathers of American ornithology. In the Gloria Dei (Old Swedes’) Cemetery, in Southwark, Philadelphia, a man with hunched shoulders, suggesting advanced age, mourns at the grave of Alexander Wilson (1766–1813). The old man seems likely to be Wilson’s mentor, William Bartram (1739–1823), who outlived Wilson by a decade. Bartram was 74 years old at the time of Wilson’s funeral. Image reproduced from the personal library of Matthew R. Halley.

systematically compared his specimens to published descriptions, and then drafted and redrafted accounts of apparently novel species, including a description of *Parus flavus* that, had it been published, would have cemented his place in ornithological history. In summary, these were the activities of an American ornithologist, dually inspired by birds and country, and thus deserving of our recognition.

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