

Did Trumpeter Swans Ever Breed in Ohio?

by Bill Whan

The history of the American Swans has been but very slightly traced. Few records of the habits of these majestic, elegant, and useful birds exist, on which much reliance can be placed, their geographical range still remains an unsolved problem; one species has been mistaken for another, and this by ornithologists who are said to be of the first order.

—John James Audubon, *The Birds of America*

Very little seems to be known of it as an Ohio bird.

—Lynds Jones, *The Birds of Ohio: A Revised Catalog*

I

Orthodox opinion seems unanimous on the former status of the trumpeter swan *Cygnus buccinator* in Ohio. State authorities (Kirtland 1838, Wheaton 1882, Dawson 1903, Jones 1903, Campbell 1940, Trautman 1940 and 1968, Peterjohn 1989) nowhere regard it as an Ohio breeder at any time, but as a migrant of days gone by that during the nineteenth century was reduced to the status of a rare straggler. Peterjohn (1989) accepts the species as such to the Ohio list based on the cumulative evidence of certain historical accounts and its documented presence (via one of several specimens¹) quite close to Ohio in December of 1876. No known specimen exists of the species as a wild bird from Ohio proper; many identified as such have upon scrutiny proved to be tundra swans *C. columbianus*, some of them overstuffed (Trautman 1982-84).

In neighboring states, the authors of monographs on the birds of Kentucky (Mengel 1965, Monroe 1994), Pennsylvania (Todd 1940, McWilliams and Brauning 2000), Michigan (Cook 1894, Barrows 1912, Granlund et al. 1994), and West Virginia (Hall 1983) agree in treating it as a former transient at best. For Ontario, McIlwraith (1894) and Macoun (1900) regard it as a migrant only; Speirs (1985) is willing only to say the species was "not found in Ontario in this century, until the recent introductions." James (1991), on the other hand, calls it a probable former breeder in Ontario (relying on Lumsden 1984), though he observes that it has not been adequately documented. As for Indiana, Butler (1890) calls it a rare migrant only, but Mumford and Keller (1984) rely upon nineteenth-century anecdotal reports of nesting in the Kankakee marshes in the northwest corner of the state to confirm it

¹ Wheaton (1882) mentions one specimen, shot in December of 1876 near Cincinnati on the Ohio River, and hence not in Ohio; this is said to be the undated CMNH 30391, originally No. 411 from the Cuvier Press Club, a female labeled "Wocher" and "Ohio," in the collection of the Cincinnati Museum of Natural History. Another, CMNH 30392, No. 412 from the Cuvier Press Club, lacks an attribution or locality information; the label states it was mounted 9 January 1879 (R. Kennedy, pers. comm.). There is another specimen (CMNH 32310) in the Museum, which comes from the Great Miami River in Ohio and dates from 27 February 1882, a year in which introductions had only just started in nearby states and provinces. The bird was an adult, and unbanded (D. Styer, pers. comm.).

TRUMPETER SWANS

as an extirpated breeder; they state the only extant specimens are from Valparaiso in February 1894 and the Cincinnati-area bird.² Collectively, these and other sources plot out an ancestral breeding range of the trumpeter swan matching fairly closely maps and descriptions from the standard literature on North American birdlife (Baird et al. 1884, AOU 1957, Bent 1962, Bellrose 1976, Palmer 1976), and in Banko's comprehensive monograph of 1960 devoted to the species.

Elsewhere at the nearer margins of this oft-delineated range, concrete evidence for the former breeding status of the trumpeter swan is hard to come by. In Missouri, for example, even though the species is accepted (Robbins and Easterlea 1992) as having bred across the northern half of the state into the 1850s, the last record was of a bird taken in 1900, and no specimen exists. In Illinois, important evidence of its occurrence (and the largest known of its kind) consists of approximately 375 bones recovered from the site of an immense pre-Columbian settlement in Cahokia (Parmalee 1958); Parmalee, it is worth noting, regarded these remains as those of migrants (Rogers & Hammer 1978). Bohlen (1989, p. 20) concludes that trumpeters "nested at least in northern and central Illinois," based on a fair number of historical accounts (summarized in Schorger 1964), but apparently there is no specimen from the historical era. For Iowa, Kent and Dinsmore (1996) recognize but one definite nesting record, from 1883, and cite a single verified specimen for the state.

Ohio bird records committees have accepted no reports of trumpeter swans over nearly twenty years of reviews, chiefly because of questions of origin in view of numerous propagation projects, both public and private, here and in nearby states and provinces. Nor have previous reports been verified as far back as the last report of an Ohio specimen of a presumably wild bird, which dated from 1900 (Henninger 1919). Like all others in the literature for Ohio, this specimen has not been preserved. A few sight reports between 1900 and the recent introductions have made it into print, the most intriguing perhaps that by Randle in 1951 from Cincinnati (Kemsies and Randle 1953).³ All in all, despite the fact that swans are easily recognized as such at a great distance, and thus particularly likely to be noted by local historians, diarists, naturalists, and hunters, Ohio accounts of wild swans—from any time of year—whose descriptions suggest they might have been trumpeters are extremely few. Reports of either native swan in Ohio during the breeding season are nonexistent, save for sightings of the occasional demonstrably non-breeding tundra swan on Lake Erie.

On a continental scale, adequate evidence apparently exists that trumpeter swans once bred in a range that extended from strongholds in Alaska and the northwestern prairies of North America as far south as northern Missouri and as far east as James Bay and extreme northwestern Indiana. Their numbers in the southern and eastern

² The authors of the most recent state monographs for both Indiana and Kentucky claim this bird as their own, while a third—Peterjohn—makes use of it, in part, to confirm the species for Ohio. Documented specimens of trumpeter swans are scarce indeed in the region, and CMNH 30391 has served triple duty.

³ Interestingly, two or perhaps three specimens from the Cincinnati area, Randle's report, and the bird Henninger describes from near Wellston—twenty-five miles from the Ohio River—make up the best-documented reports over the past century in or near the state. The southern part of Ohio, like adjacent areas in nearby states, lacked acceptable nesting habitat for swans, but the Ohio River and its larger tributaries may have served as a migratory resource or a corridor for strays, wild or otherwise.

parts of the former breeding range were not nearly as great as those closer to the core range in Alaska and western Canada, at least based on the scanty evidence we possess. The species is said to have wintered on the Atlantic, Pacific, and Gulf coasts⁴, and along the lower Mississippi River in the interior (Palmer 1976, Bellrose 1976), reportedly in considerable numbers. In California and Louisiana, wintering trumpeters outnumbered tundras, according to some accounts (Coale 1915, Burgess et al. 1997) from the era in which the two were known to be differentiable.⁵ Wheaton (1882) states that the trumpeter swan was a "rare... winter visitor" in Ohio.⁶ Audubon (1840-1844) calls *C. buccinator* "abundant at times" in winter along major rivers of the Mississippi Basin and in Texas⁷. Neither Louisiana nor Texas, however, possesses a specimen of a wild trumpeter swan (Oberholser 1974, Lowery 1974, Greg Lasley pers. comm.), nor does South Carolina or Georgia, where Sprunt & Chamberlain (1970) and Burleigh (1958), respectively, consider the species only hypothetical. We have a number of old reports of huge numbers of swans in these areas, but it seems local authorities have not been trusted them unquestioningly. Paltry and inconsistent data are unfortunately typical of the literature on our swans; the inconclusive nature of what is known about them allows for a variety of speculations. We do know that among today's populations, trumpeters in the southern portion of the present range are more or less non-migratory, moving only as far as frozen water compels them during winters. Whether this is a natural condition, a result of local extirpations, or related to artificial support involved in recent introductions is unclear.

Many historical sight records of this species are questionable. Only in 1831 did Richardson formally recognize it as distinct (primarily on anatomical grounds) from the tundra swan, and the quality of field optics during the era does not inspire confidence in early identifications by sight alone. Swans remain less than easy to distinguish in the field to the present day (Patten 1994). Earlier, only a few careful observers (e.g. Lawson 1709, Hearne 1795) left accounts demonstrating they were aware of differences between the two. Lewis and Clark distinguished two forms of swans only upon seeing them together on the Columbia River on 3 November 1805.

In the many narratives of travels through the interior of the United States during the late eighteenth and early nineteenth centuries, accounts of lengthy journeys that pass through the accepted U.S. breeding range of the trumpeter swan, it is notable

⁴ This despite its apparent preference for fresh water when nesting (Mitchell 1994, Hammer, pers. comm.).

⁵ Limpert and Earnst (1994) imply—while admitting "the literature on Tundra Swans in North America is surprisingly limited" (p.1)—that the species was never more than a rare and irregular stray to Louisiana or Texas. Audubon (1840-1844) states that the tundra swan was not to be found south of Carolina, and Lowery (1974) that it had been identified less than a dozen times in Louisiana. Some published accounts, however, apparently not known or regarded as trustworthy by the authors cited above, report that tundras—as well as trumpeters—were once abundant in Louisiana and Texas (e.g., Beyer et al. 1907, Nehrling 1882).

⁶ Wheaton cites no records for January or February. Jones (1903) states, also without citing evidence, that the species may have wintered in Ohio on occasion. There is, on the other hand, the 22 Feb. specimen from Valparaiso in northwestern Indiana to demonstrate the possibility of wintering birds elsewhere in or near the Great Lakes.

⁷ Rogers and Hammer (1978) cast doubt on Audubon's ability to distinguish between the native swans early in his career, suggesting further that even later he may have relied on erroneous early notes.

how seldom swans of either species are reported.⁸ Some of these travelers, like Bradley (1819), who traveled extensively north and west from St. Louis in 1809-11, were naturalists, easily using the scientific names of plants and animals, but one can read his and the diaries of other curious and educated explorers without hearing of these strikingly conspicuous birds. Other chroniclers, interested in animals only as food or a source of income, routinely made diary entries for the results of each day's hunt for provisions—deer, ducks, turtles' eggs, plovers, prairie-chickens, elk, geese, buffalo, and so on are typical—but no swans, even though a thirty-pound trumpeter would seem a prize worthy of mention. A reader of Lewis and Clark's journals is struck by the huge quantities of meat consumed by the party—as they, too, often record the results of each day's hunt—but it seems swans did not figure largely in their diet.⁹

Among the remarkably few reports we possess of swans seen by other explorers in much of the trumpeter's former U.S. range, still fewer involve birds in numbers during the breeding season. Houston (1997, p. 25) takes note of this, and suggests an explanation: "Why were these large swans rarely seen by explorers and traders passing through? One presumes they retreated to large marshes and small lakes for breeding and moulting, off the path of those traveling by river canoe routes, and bypassed by those traveling overland." But wouldn't those searching for beaver, the prime fur item of the era, have spent considerable time in those marshes and lakes? It is difficult to warm up to this and other arguments for a species' presence so often accompanied by rationalizations for skimpy evidence. Banko (1960, p. 23) may be facing facts—at least for the U.S.—more squarely in concluding: "The sparse and localized nesting population of trumpeters in the United States no doubt accounts for the comparative paucity of U.S. breeding records." That breeding trumpeters were few and far between in places much closer than Ohio to the core range should make us especially cautious about accepting claims that they nested here.

In recent years advocates for trumpeter swans, including several researchers, a few conservation organizations (prominently the Trumpeter Swan Society), and a number of state and provincial wildlife agencies, have advanced a case that the ancestral breeding range of this species was far more extensive in North America than has been supposed, and thus warrants much wider efforts at reintroduction than have previously been attempted. They argue that the species may once have bred as far south as central Florida, and as far east as Nova Scotia, and include Ohio in this

⁸ See, for example, the extensive Library of Western Fur Trade Historical Documents at <http://www.xmission.com/~drudy/amm.html>.

⁹ Lewis and Clark do mention swans on numerous occasions, mostly as migrants or wintering birds. A much smaller number of reports come between May to September, at least two among them mentioning large numbers of swans during this period. The first—and largest—sightings came from western Iowa and eastern Nebraska in July of 1804, and it was there Lewis attempted unsuccessfully to secure specimens of the species. They did finally shoot two flightless swans in Montana on 21 July 1805, saying, "These are the first we have seen on the [Missouri] river for a great distance, and as they had no young with them, we presume they do not breed in this neighborhood" (Coues, p. 430); molt migration has apparently not been described for the trumpeter swan (Banko 1960, Palmer 1976), and these likely were local breeders. Lewis and Clark's lengthy expedition took place almost entirely within the widely accepted breeding range of the trumpeter swan, but their reports of swans in any numbers in the heart of the nesting season come only from western Iowa/eastern Nebraska and from Montana (Moulton 1983).

proposed expanded range. The evidence they adduce consists primarily of published reports of fossils and archaeological remains of swans along with accounts of a handful of sightings, mostly by casual observers of North American wildlife, between the late seventeenth and mid-nineteenth centuries. This paper will attempt a review of the evidence presented for the former breeding status of *C. buccinator* in Ohio, and evaluate its adequacy to prove that the presently accepted status of the species must be changed.

II

One set of evidence advanced for the species' Ohio breeding status comes from Michigan. Louis Hennepin, a Belgian-born French cleric, accompanied Robert de La Salle on his first exploration of the Great Lakes, and chronicled this and other journeys in books that entertained Europe, going through forty-six editions in his lifetime. La Salle's party constructed a boat, the *Griffon*, above Niagara Falls and made history's first crossing by a large vessel of Lake Erie in 1679, turning up the Detroit River on 11 August. Hennepin had nothing to say of swans in Ohio, but of the area lying between Lake Erie and Lake St. Clair he wrote:

The Country between those two Lakes is very well situated, and the Soil very fertile. The Banks of the Streight are vast Meadows, and the Prospect is terminated with some Hills covered with Vineyards, Trees bearing good Fruit, Groves, and Forests, so well dispos'd, that one would think Nature alone could not have made, without the Help of Art, so charming a Prospect. That Country is stock'd with Stags, Wild-Goats, and Bears, which are good for Food, and not fierce as in other Countries; some think they are better than our Pork. Turkey-Cocks and Swans are there also very common; and our Men brought several other Beasts and Birds, whose Names are unknown to us, but they are extraordinarily relishing.

The Forests are chiefly made up of Walnut-trees, Chestnut-trees, Plum-trees, and Pear-trees, loaded with their own Fruit and Vines. There is also abundance of Timber fit for Building; so that those whose [sic] who shall be so happy as to inhabit that Noble Country, cannot but remember with Gratitude those who have discovered the way, by venturing to sail upon an unknown Lake for above one hundred Leagues. That charming Streight lies between 40 and 41 Degrees of Northern Latitude. (Hennepin 1697 in Thwaites 1903, p. 109)

Not long afterward, Antoine de la Mothe Cadillac arrived via an overland route from Quebec at the present site of Detroit in 1701. Here he founded Fort Pontchartrain, and describes its surroundings—in a letter to MM. Callière and Champigny, dated 8 October of that year—thus:

Its banks are so many broad meadows whose grass is kept forever green by the freshness of those lovely waters. These prairies are bordered with long, broad lanes of fruit trees which have never felt the careful hand of the vigilant gardener, and, thus, under the weight of their abundant fruit they give way, and bend their branches toward the fertile ground that produced them. It is in this fertile land that the

ambitious vine, never having wept under the knife of the industrious vintner, spreads a thick roof of broad leaves and heavy grape clusters, topping the woods to which it clings, often suffocating it in this tight embrace.

In these wide forest avenues gather hundreds of timid stags and nervous hinds, with the bounding roebuck picking up the apples and plums that pave the ground. Here the anxious turkey calls, and calls again, leading her large brood to eat the grapes. And here also are the tom turkeys filling their large and ravenous crops. Golden pheasants, quail, partridge, woodcock, and turtle dove abound in the woods and cover the fields that are mottled by the branches of lofty trees, making a lovely picture that soothes any feelings of melancholy loneliness of the solitude. The hand of the pitiless reaper has never mown here the succulent grasses that fatten the great and heavy herds.

There are ten varieties of trees, among which are walnut, red and white oak, ash, spruce or white wood, and cottonwood. They grow straight as arrows, without knots, almost without branches except at the top, and they are of prodigious size. From them the courageous eagle looks fixedly at the sun, while at his feet is sufficient to gratify his bold, armed claws. The fish are fed and bathed in the clear crystal waters; their great numbers make them no less delicious. Swans are in such profusion that they might be taken for the lily rushes in which they gather. The chattering goose, the duck, the teal, and the bustard are so numerous that I must use the expression of an Indian whom I asked, before coming here, if there was much feathered game. "There is so much," he said, "that they have to open a way in order for the canoes to pass."

Can one believe that such a place, where nature has given so much with such order, will not yield to the worker who caresses its fertile body all that is desired?

In a word, the climate is temperate; the air purified during the day is a gentle breeze at night; the sky is forever serene, spreading sweet and fresh influences that grant the gentle favor of tranquil sleep.

If the location is agreeable, it is none-the-less important, for it opens and closes on the passage to the most distant nations on the banks of the broad oceans of sweet water. Only the enemies of truth could be enemies of this establishment, so necessary to augment the glory of the King, the progress of religion, and the destruction of the throne of Baal. (Brown 1976, pp. 59-60, from Margry 1887)

Some details in these accounts are bound to raise a modern reader's eyebrow. No evidence exists that "vast meadows" bordered the Detroit River at the time (Goodrich 1940), though one imagines meadows would have sounded more attractive than impenetrable forests to prospective settlers who might advance French claims to the area. Local forests were hardly "chiefly made up of Walnut-trees, Chestnut-trees, Plum-trees and Pear-trees," though no doubt potential buyers would have been excited to read such extravagant claims. Bustards are not North American birds, but the name (French *outarde*) frequently appears in early accounts of the region; the *Oxford English Dictionary* supposes it was applied to the Canada goose, but that species' appearance and habits more closely resemble European geese rather than the terrestrial bustard, and of course Cadillac mentions "goose" and "bustard" in the same sentence. Europeans often called the ruffed grouse "pheasant,"

and the bobwhite “partridge”; all this makes it difficult to guess which species, if any, “bustard” and “quail” denote, given the forested habitat. And what local animals might Hennepin have mistaken for wild goats? Lewis and Clark initially called pronghorns goats, but range and habitat would seem to eliminate the species in this case. As for the swans, one would expect a large number of cygnets around breeding grounds at these times of year, gray birds not easily mistaken for water-lilies. It is perhaps understandable that explorers would pay close attention to the large tasty bird species, but not all the plant life present bore edible fruit, nor of course were vineyards and orchards present. Surely voyageurs living off the land would know better. Rather than precise reports from these observers, we read versions of reality that seem analogical and figurative. The scene as described was indeed, to use Hennepin’s words, one that “Nature alone could not have made, without the help of Art.”

A modern reader instantly recognizes the art of salesmanship here, the authors’ efforts to make the Detroit area—the nearest point of their journey to the west of existing French settlements, and a strategic choke-point for fending off British incursions in the region—sound like Paradise in New France, overflowing with plenty and nearly domesticated, where making a living would be as easy as plucking fruit from the nearest tree or vine. These accounts are full of rhetorical strategies aimed at Europeans who might pay for further explorations, or come to buy land and defend it for Louis XIV. And for readers wary of the wilderness, with its wolves, snakes, mosquitoes, and savages worshipping at the throne of Baal, what less threatening emblem of beauty and purity, of Edenic charms embodied, than the stately swan so familiar from Europe’s landscaped parklands and noble estates, even if it were no more present at the time than chattering geese or wild goats or golden pheasants or gentle bears?

Finally, it must be added that neither author had a reputation for scrupulous reportage. The historian Francis Parkman says of a later episode in Hennepin’s work from which the above passage is taken that “...this reverend father was the most impudent of liars, and the narrative of which he speaks is a rare monument of brazen mendacity...His books have their value, with all their enormous fabrications” (Parkman 1869, p. 84).¹⁰ Cadillac, for his part, arrived in New France with a spurious aristocratic name and coat of arms, and soon Vaudreuil, Governor of New France, was to say of him that he was “so much in the habit of stating what is untrue that it is almost impossible for him to write otherwise” (*Michigan Historical Collections* 33:283). The biological inconsistencies of these accounts, their obvious promotional intent, and the tendencies of their authors to distort the truth, combine to cast grave doubt on their reliability. These facts, and the absence of any documentation whatever that swans of either species were ever taken or even noticed again during the breeding season in the area, despite a continuous and rapidly growing number of observers in the area from 1701 on, probably relegate these swan reports to the realm of fable.

Rogers and Hammer (1978) do not resort to them, but Lumsden (1984, p. 418) gives credence to the aforementioned reports, saying that “After Cadillac there were no reports of swans for over 150 years, likely because of the scarcity of aware

¹⁰ See Dolle 1988, also online at <http://marauder.millersv.edu/~columbus/data/art/DOLLE-01.ART>.

settlers, preoccupation with survival on the frontier, a low literacy rate, and distraction caused by war and disturbances.” Given such a benighted citizenry—unaware, preoccupied, illiterate, and distracted—it is a wonder we know anything at all of that century and a half. Advocates of a larger breeding range say the swan was extirpated by hunting, but hunters in this area never mention it. Preoccupied with survival as they were, settlers would be expected to make use of large waterfowl present in such abundance, flightless during its molt, and by all accounts tasty as a young bird, then to mention them in a way that would have been recorded at least once.

Elsewhere outside the accepted breeding range, there are only a few credible reports of swans in the period May through September. Rogers and Hammer (1978) collect reports of this kind from the eastern U.S., including several new ones as yet unreported in the literature. The four cited (Cuming 1810, Hildreth 1842¹¹, Cooke 1887, and Peale in Weese 1947) come from May and June on or near the Mississippi River north of Memphis. Burgess et al. (1997) derive all such citations from Rogers and Hammer.¹² All four instances involve observations of swans of undetermined species, with no indication of breeding reported beyond their presence in May or June.

For Ohio, the first-hand accounts of Zeisberger (Zeisberger 1885, Mahr 1949, Hulbert and Schwarze 1910), Smith (1799), and Heckewelder (1819) of their lengthy experiences here during the eighteenth century do not mention breeding swans, or even swans encountered during the breeding season. Zeisberger’s careful natural history observations (Hulbert & Schwarze 1910) from years spent in the wilderness prior to 1780 feature only this in the section in which he describes over forty species of native birds of interest: “Wild swans are quite like the domestic birds, I have seen in Holland, quite white and of the same size. The Indians declare that their flesh tastes like that of the bear, of which they are particularly fond, and is often so fat that pieces may be cut from the flesh” (p. 65).

Still more authoritative are statements from Col. James Smith, who spent over four years living with Delaware Indians after they captured him then later adopted him, traveling the Lake Erie shore between the Cuyahoga and Maumee Rivers until his escape in 1759. While not a trained naturalist, he nevertheless lived intimately

¹¹ Samuel Hildreth was Jared P. Kirtland’s trusted correspondent on matters of natural history, and his testimony that swans were “common” along the Mississippi in southern Missouri is likely better informed than those of more casual observers.

¹² The cited papers of Burgess et al. feature some of the more heated sentiments expressed within the Trumpeter Swan Society, e.g. (p. 3): “It is evident that Trumpeters once wintered in great numbers in Texas and Louisiana. Both states have ignored these historical facts...some members of Texas Parks and Wildlife wish to ignore the benefits of Trumpeter Swans and do not want them because Trumpeters are not huntable...” (the U.S. Fish & Wildlife Service has since proposed permitting the hunting of trumpeter swans; for the Society’s position, see their website at http://www.taiga.net/swans/news_and_events.html). Burgess et al. summon up (p. 25) some of the salesmanship in which the Society occasionally indulges: “There is so little to lose and so much to gain for a state or an agency in restoring the magnificent Trumpeter Swan. It improves the state’s image for it to be concerned with all of its wildlife. It is good to increase the biodiversity and quality of life. It is good to promote wetlands, and you can promote quality wetlands with Trumpeters, as Nebraska and Iowa have done. It is good to promote outdoor recreation and tourism, both from within the state and out-of-state, with something as worthwhile to see as Trumpeter Swans.”

with native hunters in the small portion of Ohio with potential swan breeding habitat, and even dealt with fur traders in Detroit. As might be expected, his narrative of daily life often concerns hunting and its results. He mentions swans four times, each as a food item taken or observed during the migratory periods. Typical is this account (Smith 1799, p. 65): "In this manner we lived, until October, then the geese, swans, ducks, cranes, &c. came from the north, and alighted in this little Lake [Sandusky Bay], without number or innumerable. Sunyendeand [a Wyandot village there] is a remarkable place for fish, in the spring, and fowl both in the fall and spring." Perhaps these October swans were accustomed to stopping along the Detroit River on the way south toward Sandusky Bay.

III

Swan skins and quills were not recognized as potential items of commerce until the late eighteenth century (Hearne 1795). Even into the early nineteenth century, however, comprehensive contracts the trading posts signed with trappers and hunters in Michigan and Ontario did not offer prices for swan skins, and the only reported trade from birds in their records was of "bed feathers" (Wallace 1934), suggesting the swan trade was not important locally until after that time, if ever. Data from the archives of the dominant peltry trader of the era, the Hudson's Bay Company, however, suggest that once underway on the western frontier by 1810 or so the take of swans was considerable. The numbers of skins shipped plummeted in mid-century however, and by the 1890s only comparatively tiny numbers of skins and quills reached markets, though it is important to note that improved steel pen nibs had become popular by this time (Houston 1997), and demand for quills may have ebbed faster than supply. In any event the lion's share of swan items—and the impact on overall trumpeter swan populations—came from Alberta, Saskatchewan, and Manitoba (Houston, pers. comm.), demonstrably the heart of the species' breeding-grounds, at least the part easier of access to gunners of the time. Banko (1960), for example, reports that 5072 swan skins (of both swan species mixed) went to market through the Hudson's Bay Company in 1828, one of the peak years for the trade, and Houston (1997) reports that 4498 of these originated in those three Canadian provinces, a proportion amounting to 88%. Banko relates that in this same year only 18 swan skins (species undetermined) went to London from the Eastmain Fort and Moose River entrepôts, James Bay posts collecting furs from further east, where skins from Ohio destined for the Company would presumably have gone. His map (p.18) of trading posts of the Fur Country, with accompanying compendia of reports of numbers of swans involved, show that all but a quite small proportion of swans in the trade of the day came from western Canada.

Once armed with flintlocks, natives would no doubt have found it easier to kill swans (as well as other more desirable game much easier to shoot and retrieve), but written accounts (e.g., Hearne 1795) by experienced gunners make it clear that even flightless molting swans were difficult targets. Audubon (1840-1844) regarded trumpeters as hard to kill and, as adults, "dry and tough" to eat. An emerging demand for skins and quills would have made swans more sought after than earlier,

but Lumsden (1984) does not consider the swan trade, among European settlers and Indians alike, as the chief cause of the species' disappearance in Ontario. Matthiessen (1959, p. 75) regards MacFarlane's report of 17,671 skins of swans (again, of both species) taken to market between 1853 and 1877 as a number that "while not staggering, represented an unhealthy proportion of the population of North America's largest waterfowl." Banko (1960) dates the first reference to the swan trade in the United States to 1823 (Keating 1825) along the Minnesota/South Dakota border, and the second to Audubon's 1828 account (the incident itself may have occurred in 1810 or 1811) of the slaughter for sale of swans in Kentucky (which species remains in doubt, as at the time he may not have known how to distinguish them—see comments of Rogers and Hammer 1978). Banko then goes on to state "all other instances of this sort have a Canadian origin," implying he could not establish that swans were ever an important item of commerce in the United States. At any rate, the timing of the trade is almost certainly too late for any Ohio extirpation by this means to have been missed by chroniclers, and there is no evidence of any swan trade in Ohio. In the search for additional documentation of the use of swans by Ohio's original human inhabitants, we must next turn to archaeological remains.

IV

There seem to be five published accounts of identified archaeological remains of *C. buccinator* in Ohio. Mills documents "small numbers" of trumpeter swan bones in the gravesites and middens at the Gartner (1904) and Baum (1901) village sites in Ross County. Goslin (1955) excavated five Ohio rock shelters, finding a single trumpeter swan bone in a Fairfield County cave, and in the course of several excavations in Lake County found a single bone fragment of this species in a site occupied until the mid-seventeenth century by natives who apparently had little or no contact with Europeans (Goslin 1943). Mayfield (1972) found fifteen bones at a fourth pre-Columbian site, near Toledo.

Coale (1915, p. 89) quotes Mills, then curator of the Archaeological and Historical Society of Ohio, thus: "We have in our collection a great many bones of the Trumpeter Swan. It seems that this bird, although a very rare migrant at the present time, was here in great numbers in pre-historic time, and we find their bones in the villages of the old Indians." Unpublished records of these remains—and such there must have been to justify Mills's statement—are difficult of access, but there are certainly more trumpeter swan bones in Ohio museums than appear in the literature.¹³ Many large Ohio collections are organized by site rather than by species, and looking among their accession records is a task no researcher has yet undertaken for this bird. Further, narrower specialization and the proliferation of material mean that today there may be no Wm. C. Mills with the capacious institutional memory to offer an overview like that Coale quotes. In many collections faunal remains languish unidentified (B. Redmond, pers. comm.),

¹³ The online collection catalog of the Ohio Historical Society references only one: a radius from the Toepfner Mound in Franklin County; this seems to be the bone Banko cites as mentioned to him by E. S. Thomas (Banko 1960, p. 9).

presumably for the lack of available time, funds, and expertise. And, regrettably, the further we look back in time the more likely are misidentifications, as some earlier researchers demonstrated less concern with the identity of bone fragments in waste pits than with human artifacts and grave contents. And concern alone may not have sufficed. A standard work on avian osteology in North American archaeology (Gilbert 1981) does not treat the differentiation of swan species, and Parmalee (1961, p. 213) cautions that "extremely close similarities of anatomical features between the Trumpeter Swan and the Whistling Swan (*C. columbianus*) often make specific determination questionable."

In any event, interpreting the presence of a trumpeter swan bone, even once confidently identified, in an archaeological site is a complicated affair: is it a tool, a trade item, a payment in tribute, or a component of grave goods? If discarded from food, had it been fresh or did it derive from swan meat smoked or otherwise preserved and brought in from far away?¹⁴ Even if local, was the bone deposited during swans' migration season or during their breeding season? Was the swan in question wild or—as accounts from collectors attest to the ease with which trumpeters could be tamed¹⁵—otherwise? How should we interpret its context, especially its numbers' proportion among those of remains of other bird species? These are questions to which we can very seldom offer conclusive answers. Peterjohn (pers. comm.), in contrast with his treatment of ivory-billed woodpecker remains (of which several sets of remains discovered in Ohio consist at least in part of foot bones, extremely unlikely as food or trade items) as acceptably conclusive evidence, considers other sorts of documentation sufficient to verify the trumpeter swan for Ohio without resorting to the archaeological record, with all its potential problems.

The fifteen bones identified by Mayfield (1972) deserve special attention, because they were found in potential trumpeter swan breeding habitat, and because of their numbers relative to only 210 identified bones of 33 other bird species found there. Mayfield, while admitting that the former status of trumpeter swan as a breeder in Ohio can at best be only hypothetical based on current evidence, regards the species as a highly probable year-round resident before settlement by Europeans (pers. comm.). He cites (1972, 1988) the presence nearby of seemingly appropriate habitat for resident trumpeters, including areas of open water during cold winters along the Maumee River and elsewhere nearby, and supposes Indians newly armed with muskets might well have wiped out a local breeding population before they could be documented. He does not, of course, implicate those who occupied the site in question, as radiocarbon dates of local samples fell in a range from 590 to 1210 A.D.—a span which additionally suggests an occupation lengthy enough to explain considerable quantities of faunal remains. The remains he identified, like all others in Ohio, offer no direct evidence of local breeding, however, and their relatively high proportion among the bones identified might be a matter of chance, as might be the relatively low proportions for other species of the surrounding marshland (for example, only two bones of Canada geese, and none of herons or egrets). Mayfield,

¹⁴ Five of the six sites with trumpeter swan bones in Ohio cited above are far from the hypothetical breeding grounds in the northwest corner of the state.

¹⁵ See accounts in Cole (1915). Audubon (1840-44) tamed a cob in his yard, which ate from the hand.

while acknowledging the speculative nature of his case, offers an explanation how a trove of *C. buccinator* remains found in this old village might be reconciled with the lack of historical accounts of trumpeter swans in the Toledo area. The explanation—especially as it involves breeding swans—nevertheless remains unsubstantiated by direct evidence.

V

During the past several hundred years, appreciable tracts of potential breeding habitat for trumpeter swans in Ohio must have been restricted to marshes near the western end of Lake Erie.¹⁶ However, no conclusive evidence emerges from eyewitness accounts, from specimens, from hunters' logs, or from archaeological remains that this species ever bred there or anywhere in the state. Advocates for introductions of the species here and elsewhere still farther east frequently cite Rogers and Hammer (1978) in support of a greatly enlarged version of the species' ancestral breeding range. Rogers and Hammer freely acknowledge the circumstantial and speculative nature of some of their arguments for breeding by the species well outside the generally accepted range. Repeatedly, they present this status in certain areas as "postulated," which the reader presumes to mean presented as an indemonstrable hypothesis for the sake of discussion. Their compilations of paleontological and archaeological evidence, along with the historical accounts they have uncovered—some apparently missed by other researchers—are valuable and of considerable interest, in particular those for the lower Mississippi Valley—the area on which their researches intentionally concentrated (Hammer, pers. comm.). In the case of Ohio, however, these authors, having chosen not to look into the local historical literature, summarize their case thus: "Coale (1915) in his compilation of reports on the status for *C. buccinator*, included collection reports from Ravenna, Cincinnati, and St. Mary's Lake [sic], Ohio, during the 1880's and Heninger (1919) reported collection of a specimen on April 18, 1900, near Wellston, Ohio. These reports and the archaeological and ecological evidence cited earlier support a minimal extension of the ancestral breeding range to include the northwestern half of Ohio" (p. 22). What must be added is that none of these reported specimens of swans—as well as other old published reports from Ohio of which Rogers and Hammer were apparently unaware—is known to exist today except for the "Cincinnati" specimen, actually shot in Kentucky in December of 1876 (Wheaton 1882). More importantly, none was reported as collected during the nesting season.¹⁷ Nor can any of Ohio's archaeological remains of trumpeter swans found to date conceivably establish breeding status for the species. Despite the former existence of some areas—probably far less extensive than Rogers and Hammer imply—of potential breeding habitat in northwestern Ohio, no observations—even

¹⁶ Marshlands immediately adjacent to Lake Erie, with their frequent and sometimes violent alterations in water levels, did not provide appropriate habitat (Mitchell 1994, Banko 1960) for breeding swans. Such habitat as may have existed would have been farther inland, as a remote extension of these marshes, or the easternmost vestiges of wet prairie habitats barely reaching the region from the west.

¹⁷ An 18 April swan was probably a late migrant. Schorger (1964, p. 332) asserts a 20 April specimen from Wisconsin "falls within the period of the spring migration," and does not support breeding status there. Bent (1962) offers later dates for the species' spring passage.

unacceptably vague ones—of trumpeter swans during the breeding season are on record for areas in Ohio, Michigan, or Ontario close to western Lake Erie for the past three hundred years.

In the nearest part of the accepted ancestral breeding range, the Indiana Bird Records Committee (1999) has accepted the species as a former breeder based on suspected, rather than confirmed, nesting. Farther east, the Pennsylvania Ornithological Records Committee does not accept the species for its official state list, even as a migrant. The Michigan Bird Records Committee asserts there is no concrete evidence that trumpeter swans ever bred in the state. In fact, despite the inclusion of most of the state in his 1960 breeding range map, Banko told Granlund (senior author of *The Birds of Michigan* 1994) that he had no proof they ever bred in Michigan (Adam Byrne, pers. comm.).

Surely, one might say, the record would be firmer further west in Wisconsin, closer to the core range, but Robbins (1991) is able only to report the species was “formerly a probable breeder” there, and that there are no known specimens. Schorger (1964, p. 332), while regarding it as a highly probable breeder there, studied all the county histories of the state among other sources and concluded “there is no satisfactory record of the breeding of this swan in Wisconsin.” Rogers and Hammer sketch a map proposing a breeding range map for the species that among other areas includes all of Wisconsin, Michigan, and Ohio, and parts of Pennsylvania, West Virginia, Kentucky, Tennessee, Arkansas, Mississippi and Louisiana (Rogers and Hammer 1978, p. 24), but evidently one could also make a case that the accepted range should be diminished rather than enlarged. Why are there so few specimens of such a splendid trophy, especially from areas where it was said to be abundant? Why does such a conspicuous bird go nearly unmentioned by so many visitors to its U.S. range—particularly those parts closer to Ohio—even before habitat destruction and hunting had presumably reduced its numbers?

Popular accounts routinely mention that the trumpeter’s U.S. population had been reduced to less than a hundred by the 1930s, but never from what number it had dwindled. Proof is lacking that the species was ever more than a scarce and local breeder anywhere south of the Canadian prairie provinces. Most plausible reports of trumpeters in substantial numbers here derive from migrant or wintering flocks. Most reported specimens have vanished or proved to have been misidentified, and most descriptions of swans in this country fail to rule out confusion with tundra swans. Proponents of expanding its range assume that all U.S. summer records of swans must be of trumpeters, but they fail to explain how ornithologists could have been so wrong about the breeding range of trumpeters, but so right about that of the tundra swan. Besides, Ohio has a number of records of summering non-breeding wild tundra swans, (most recently in 1999), and none for trumpeters; how many of the few extralimital summer reports of trumpeters farther south might be cases of mistaken identity?

In the 1950s and 60s substantial remnant numbers of several thousand trumpeter swans were discovered in Alaska, a population that through protection has fortunately more than quintupled in size since that time. By contrast, the population in the western Lower 48 declined from over 700 in 1968 to about 470 in 1998 (Shea 1998); some suggest that introduced (and frequently replenished) stocks in the

Midwest compensate for this loss in terms of raw numbers, but the latter are clearly of a different status from the wild birds—however artificially sustained—of Montana, Idaho, and Washington. Might the trumpeter swan’s population have rebounded so contrastingly well in Alaska because that is the heart of its range, rather than areas in the western Lower 48 that have always been marginal? At any rate, the trumpeter is not on the Federal lists of endangered or threatened species today.

The literature on the species’ ancestral status in the Lower 48 is scanty and often displays unacceptable inconsistencies and outright contradictions. Its former presence in generally recognized parts of its breeding range is the most skimpily documented in those areas closest to Ohio. The available evidence does not permit us to assume it ever bred in Ohio. As for the present and future status of the species as a wild bird here, regrettably it is, and will remain, obscured by numerous introduction projects here and in nearby states, which result in unmarked birds occurring haphazardly throughout the region. Whether this impressive species will prosper under existing conditions and one day genuinely become part of Ohio’s wild breeding avifauna is at best dubious, as is any assertion that it was such in days gone by.

ACKNOWLEDGMENTS

The author gratefully acknowledges valuable assistance from the following persons in the course of researching this paper: David A. Brinkman, Adam Byrne of the Michigan Bird Records Committee, Julie Craves of the Rouge River Bird Observatory, Phil Davis of the Maryland Ornithological Society, Bob Glotzhober of the Ohio Historical Society, Don Hammer, Janet Hinshaw of the University of Michigan’s Museum of Zoology, Stuart Houston, Bob Kennedy of the Cincinnati Museum of Natural History, Greg Lasley of the Texas Bird Records Committee, Harold Mayfield, Bruce Peterjohn, Brian Redmond and Robert Segedi of the Cleveland Museum of Natural History, and Dave Sherman of the Ohio Division of Wildlife.

REFERENCES

- Audubon, J. J. 1831-1839. *Ornithological Biography, or an account of the habits of the birds of the United States of America*. 5 vol. Adam & Charles Black, Edinburgh.
- _____. 1840-1844. *The Birds of America*. 7 vol. J.J. Audubon, New York.
- Baird, S.F., T.S. Brewer, and R. Ridgway. 1884. *The Water Birds of North America*. Mem. of the Mus. of Comp. Zool., Harvard. Vol. 12. Little, Brown & Co., Boston.
- Banko, W.E. 1960. *The Trumpeter Swan*. North American Fauna no. 63. U.S. Government Printing Office, Washington D.C.
- Barrows, W.B. 1912. *Michigan Bird Life*. Michigan Agricultural College, Lansing.
- Bellrose, F.C. 1976. *Ducks, Geese, and Swans of North America*. Stackpole Books, Harrisburg, PA.
- Bent, A.C. 1962. *Life Histories of North American Wildfowl*, pt. 2. U.S. Nat. Bull. No. 130. Washington, D.C.
- Beyer, G.E., A. Allison, and H.H. Kupman. 1907. List of the birds of Louisiana, Part III. *Auk* 24:314-321.
- Bohlen, H.D. 1989. *The Birds of Illinois*. Indiana Univ. Press, Bloomington.
- Bradley, J. 1819. *Travels in the Interior of America, in the years 1809, 1810, and 1811*. London.

ERRATUM Overlooked in the preparation of this article was a note: Schorger, A. 1968. Breeding of the Trumpeter Swan at the Madison, Wisconsin, lakes. *Wilson Bulletin* 80:228-9. Here Schorger reported further research had uncovered a few 19th-century reports of trumpeters (seemingly tame or domesticated birds) nesting near Madison.

- Brown, H.D. 1976. *Cadillac and the Founding of Detroit*. Wayne St. Univ. Press, Detroit.
- Burgess, H., R. Burgess, and M. Bote. 1999. Trumpeter swans once wintered on the lower Mississippi River. Why not now? *Proc. and Papers of the Sixteenth Trumpeter Swan Society Conference*. Trumpeter Swan Society, Maple Plain, MN.
- _____. 1999. Developing trumpeter swan wintering areas. *Proc. and Papers of the Sixteenth Trumpeter Swan Society Conference*. Trumpeter Swan Society, Maple Plain, MN.
- Burgess, H., and R. Burgess. The Eastern Trumpeter Swan: Historical, Breeding, Migration, and Wintering Ranges. Undated (ca. 1994) typescript.
- Burleigh, T.S. 1958. *Georgia Birds*. Univ. Okla. Press, Norman.
- Burton, C.M. 1896. *A Sketch of the Life of Antoine de la Mothe Cadillac, Founder of Detroit*. Wilton-Smith, Detroit.
- Butler, A.W. 1890. The Birds of Indiana. *Indiana Dept. of Geol. and Nat. Res. 22nd Annual Report*. Indianapolis. Pp. 515-1187.
- Campbell, L. W. 1940. Birds of Lucas County. *Toledo Mus. of Sci. Bull.* Vol. 1, No. 1, Toledo, OH.
- Coale, H. K. 1915. The present status of the Trumpeter Swan, *Olor buccinator*. *Auk* 32: 82-90.
- Cook, A. J. 1894. *The Birds of Michigan*. Bull. 94, 32nd Ann. Rep. to the Sec. of the St. Bd. of Agric. Lansing.
- Cooke, W.W. 1887. Bird Migration in the Mississippi Valley in 1834 and 1885. U.S.D.A. Dept. of Econ. Ornith. and Mammology. Bull. No. 2. Washington, D.C.
- Coues, Elliott, ed. 1893. *History of the Expedition under the command of Lewis and Clark*. 3 vol., Dover Publications, New York. (1965).
- Cuming, F. 1810. *Sketches of a tour to the western country, etc.* Cramer, Spear, & Eichbaum, Pittsburgh.
- Dawson, W.L. 1903. *The Birds of Ohio*. Wheaton Publishing Co., Columbus.
- Dolle, R. 1988. Hennepin's story of La Salle in Indiana, in *Indiana English* Vol. 12, No. 1: 4-7.
- Eccles, W.J. 1964. *Canada under Louis XIV, 1663-1701*. Toronto Univ. Press.
- Gilbert, B., L. Martin, and H. Savage. 1981. *Avian Osteology*. B. Miles Gilbert, Publisher. Laramie, WY.
- Fleming, J.H. 1906. Birds of Toronto. Part 1. Water Birds. *Auk* 23:437-453.
- Goodrich, C. 1940. *The First Michigan Frontier*. Univ. Mich. Press, Ann Arbor.
- Goslin, R. M. 1943. Animal remains from the Fairport Village site. *Oh. St. Arch. and Hist. Quarterly* 52:45-51.
- _____. 1955. Animal remains from Ohio rock shelters. *Ohio J. Sci.* 53:358-362.
- Goss, N.S. 1891. *History of the Birds of Kansas*. G. W. Crane & Co., Topeka.
- Granlund, J., G. McPeck, and R. Adams. 1994. *The Birds of Michigan*. Indiana Univ. Press, Bloomington.
- Guilday, J.E. 1971. Biological and Archaeological analysis of bones from a 17th century Indian village (46 PU 31), Putnam County, West Virginia. W. Va. Geol. and Econ. Survey Report of Arch. Invest. No. 4.
- Hall, G.A. 1983. *West Virginia Birds: Distribution and Ecology*. Carnegie Mus. of Nat. Hist., Pittsburgh.
- Hearne, S. 1795. *A Journey from Prince of Wales's Fort in Hudson's Bay to the Northern Ocean*. Strahan & Cadell, London, 1911.
- Heckewelder, J. 1819. An account of the history, manners, and customs of the Indian nations who once inhabited Pennsylvania and the neighboring states. *Trans. Am. Phil. Soc.* Vol 1, No. 1. Philadelphia.
- Hennepin, L. 1697. *Nouvelle découverte d'un très grand pays situé dans l'Amérique entre le Nouveau Mexique et la mer Glaciale*. Paris.
- Henninger, W.F. 1919. An overlooked record of the Trumpeter Swan. *Auk* 36:564-565.
- Hildreth, S.P. 1842. History of an early voyage on the Ohio and Mississippi Rivers, etc. *American Pioneer* 2:89-105, 128-145.
- Houston, C. S., and M. I. Houston. 1997. The 19th-century trade in swan skins and quills. *Blue Jay* 55(1):24-34.
- Howard, H. 1964. Fossil Anseriformes. Pp. 233-326 in *Waterfowl of the world*, vol. 4 (J. Delacour, ed.). Country Life Ltd., London.
- Hulbert, A.B., and W.W. Schwarze, eds. 1910. David Zeisberger's History of the North American Indians. *Oh St. Arch and Hist. Quarterly* 19:1-173.
- James, R.D. 1991. *Annotated Checklist of the Birds of Ontario*. Royal Ont. Mus. Misc. Publ. Toronto.
- Jones, L. 1903. The Birds of Ohio: A Revised Catalogue. *Oh. St. Acad. Sci. Spec. Papers* No. 6.

- _____. 1905. Additional records of Ohio birds. *Ohio Naturalist* 4(5):112.
- _____. 1909-1910. The Birds of Cedar Point and Vicinity. *Wilson Bulletin* 21:187-204 and 22:25-115.
- Keating, W.H. 1825. *Narrative of an expedition to the sources of the St. Peter's River*. G.B. Whittaker, London.
- Kemsies, E., and W. Randle. 1953. *The Birds of Southwestern Ohio*. Edwards Bros., Inc. Ann Arbor, MI.
- Kent, T.H., and J.J. Dinsmore. 1996. *Birds in Iowa*. Iowa City.
- Kirtland, J.P. 1838. Report on the zoology of Ohio. *Second Annual Report, Geologic Survey of the State of Ohio*, pp. 157-200.
- Lawson, J. 1709. *A New Voyage to Carolina*. Univ. N.C. Press, Chapel Hill. (1967).
- Limpert, R.J., and S. L. Earnst. 1994. Tundra Swan (*Cygnus columbianus*). In *The Birds of North America* No. 89 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences, Washington, D.C.: The American Ornithologists' Union.
- Lowery, G.H. 1974. *Louisiana Birds*. Louisiana St. Univ. Press, Baton Rouge.
- Lumsden, H.G. 1984. The pre-settlement breeding distribution of Trumpeter, *Cygnus buccinator*, and Tundra swans, *C. columbianus*, in eastern Canada. *Canadian Field-Naturalist* 98:415-424.
- MacFarlane, R. 1891. Notes on and list of birds and eggs collected in arctic America, 1861-66. *Proc. U.S. Nat. Mus.*, vol 14.
- _____. 1905. Notes on mammals collected and observed in the northern Mackenzie River district, Northwest Territories of Canada. *Proc. U.S. Nat. Mus.*, vol. 28.
- Macoun, John. 1900. *Catalogue of Canadian Birds*. Geol. Surv. Canada No.692, pt. 1. S. E. Dawson, Ottawa.
- Mahr, A. C. 1949. A chapter of early Ohio natural history. *Oh. J. Sci* 49:45-69.
- Matthiessen, P. 1959. *Wildlife in America*. Viking Press, New York.
- Margry, P., ed. 1887. *Découvertes et établissements des Français dans l'ouest et dans le sud de l'Amérique septentrionale: 1614-1754: mémoires et documents originaux. 5. Première formation d'une chaîne de postes entre le fleuve Saint-Laurent et le golfe du Mexique: 1683-1724*. P. Jouaust, Paris.
- Mayfield, H. F. 1962. The changing Toledo region—a naturalist's point of view. *Northwest Ohio Quarterly* 34:83-104.
- _____. 1972. Bird bones identified from Indian sites at western end of Lake Erie. *Condor* 74:344-347.
- _____. 1988. Changes in bird life at the western end of Lake Erie. *American Birds* 42:393-398 (Part I).
- McGraw, W. 2000. Despite local history lessons, city's founder was no hero. *Detroit Free Press* 24 July.
- McIlwraith, T. 1894. *The Birds of Ontario*. Wm. Briggs, Toronto.
- McWilliams, M. and D. Brauning. 2000. *The Birds of Pennsylvania*. Cornell Univ. Press, Ithaca.
- Mengel, R. M. 1965. *The Birds of Kentucky*. Ornith. Monog. No.3, AOU. Allen Press, Lawrence, KS.
- Mills, W.C. 1901. Report of the Curator of the Ohio State Archaeological and Historical Society. *Ohio St. Arch. and Hist. Quarterly* 10:81 ff.
- _____. 1904. Explorations of the Gartner Mound and Village site. *Ohio St. Arch. and Hist. Quarterly* 13:129-190.
- Mitchell, C.D. 1994. Trumpeter Swan (*Cygnus buccinator*). In *The Birds of North America*, No. 105 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences, Washington, D.C.: The American Ornithologists' Union.
- Monroe, B. 1994. *The Birds of Kentucky*. Indiana Univ. Press, Bloomington.
- Moulton, Gary E. 1983. *The Journals of the Lewis and Clark Expedition*. 12 vol. Univ. Nebraska Press, Lincoln.
- Mumford, R.E., and C. E. Keller. 1984. *The Birds of Indiana*. Indiana Univ. Press, Bloomington.
- Nehring, H. 1882. List of birds observed at Houston, Harris Co, Texas, and in the counties Montgomery, Galveston, and Ford Bend. *Bull. Nuttall Ornith. Club* 7:222-225.
- Palmer, R.S., ed. 1976. *Handbook of North American Birds*. 2 Vol. Yale Univ. Press.
- Parkman, F. 1869. *La Salle and the Discovery of the Great West*. Modern Library, NY.
- Parmalee, P. W. 1958. Remains of rare and extinct birds from Illinois Indian sites. *Auk* 75: 169-176.
- _____. 1961. A prehistoric record of the Trumpeter Swan from central Pennsylvania. *Wilson Bulletin* 73:212-213.
- _____. 1976. A general summary of the vertebrate fauna from Cahokia, in J.A. Brown, ed., *Perspectives in Cahokia Archaeology*. Ill. Arch. Survey Bull.10. Urbana.

- _____. 1977. The avifauna from prehistoric Arikara sites in South Dakota. *Plains Anthropology* 22:189-222.
- Patten, M., and M. T. Heindel. 1994. Identifying Trumpeter and Tundra Swans. *Birding* 26(5):306-319.
- Peterjohn, B.G. 1989. *The Birds of Ohio*. Indiana Univ. Press, Bloomington.
- Richardson, J. 1831. *Fauna Boreali Americana*. London.
- Robbins, M.B., and D.A. Easterlea. 1992. *Birds of Missouri*. Univ. Missouri Press, Columbia.
- Robbins, S.D. 1991. *Wisconsin Birdlife*. Univ. Wisc. Press, Madison.
- Rogers, P. M., and D. A. Hammer. 1978. Ancestral breeding and wintering ranges of the Trumpeter Swan (*Cygnus buccinator*) in the eastern United States. *North American Swans*, 27(1):13-29 (1998).
- Schorger, A.W. 1964. The trumpeter swan as a breeding bird in Minnesota, Wisconsin, Illinois, and Indiana. *Wilson Bulletin* 76:331-338.
- Shea, R. 1998. From the President. *North American Swans*, 27(1): 1.
- Smith, J. 1799. *An Account of the Remarkable Occurrences in the Life and Travels of Col. James Smith*. John Bradford, Lexington, KY. Reprinted 1978 as *Scoouwa: James Smith's Indian Captivity Narrative*, by the Ohio Historical Society, Columbus.
- Speirs, J. M. 1985. *Birds of Ontario*. Natural History Press, Inc., Toronto.
- Sprunt, A., and E.B. Chamberlain. 1970. *South Carolina Bird Life*. Univ. S.C. Press, Columbia.
- Styer, D. 1993. *Birds of the Oxbow: an Account of the Birds near the Mouth of the Great Miami River*. Cincinnati, OH.
- _____. 1990. Birds of the lower Great Miami River. *Ohio Cardinal* 13(1):17-25.
- Thwaites, R.G. 1903. *A New Discovery of a Vast Country in America*, by Father Louis Hennepin. A.C. McClurg & Co, Chicago.
- Todd, W. E. 1940. *Birds of Western Pennsylvania*. Univ. Pittsburgh Press, Pittsburgh.
- Trautman, M. 1940. *The Birds of Buckeye Lake, Ohio*. Univ. Mich. Press, Ann Arbor.
- _____. 1977. *The Ohio Country from 1750-1977: a Naturalist's View*. Ohio Biol. Sur., Biol. Notes No. 10. Columbus.
- Trautman, M., and M. Trautman. 1982-84. *Non-Passerine Birds of Western Lake Erie*. Unpublished manuscript. Ohio Sea Grant College Program, Ohio State Univ., Columbus, OH.
- Tyrell, J.B. 1934. *Journals of Samuel Hearne and Philip Turnor*. Champlain Society publ. 21. Univ. Toronto Press.
- Vaudreuil, P. R. 1706. in *Michigan Historical Collections XXXIII*. Bentley Historical Library. Univ. of Mich., Ann Arbor.
- Wallace, W.S. 1934. *Documents relating to the North West Company*. 12 vol. The Champlain Society, Toronto.
- Weese, A.O., ed. 1947. The journal of Titian Ramsey Peale, pioneer naturalist. *Mo. Hist. Review* 41:147-163, 266-284.
- Wells, W.C. 1906. *Distribution and Migration of North American Ducks, Geese, and Swans*. USDA Bull. 26. Biol. Survey. Washington D.C.
- Wheaton, J. M. 1882. Report on the Birds of Ohio. *Ohio Geol. Survey Bull.* 4:187-628.
- Zeisberger, D. 1885. *Diary of David Zeisberger, a Moravian Missionary among the Indians of Ohio*. Tr. and ed. E. T. Bliss. 2 vol. Clarke & Co., Cincinnati.

223 E. Tulane Rd.
Columbus, OH 43202
danielel@iwaynet.net

Birding Scioto Trail State Forest by Robert Royse

Scioto Trail State Forest covers 9,390 acres in Ross County. An additional 250 acres surrounded by the forest are designated as Scioto Trail State Park, with two small lakes and camping and picnic facilities. Located just south of Chillicothe, it is a convenient drive south from Columbus down US Rt. 23. In the DeLorme *Ohio Atlas and Gazetteer* it can be located on page 78 at C2. A paved road through the Forest's main valley, Stony Creek Road, is shown as a solid red line in the *Atlas*, and the well-maintained gravel roads along the surrounding ridges are shown in dotted lines. Detailed maps for the area are recommended, and are obtainable in a kiosk near the entry from Rt. 23. First-time visitors, however, are advised to request a map from the Ohio Division of Forestry first¹, since that kiosk is often empty. The location of Scioto Trail SF in the heart of the largest bend of the Scioto River (a significant migratory corridor), as well as at the northern edge of unglaciated Ohio, make it an ideal area for birders to explore its many resident and migrating species.

The summer nesting status of many species deserves further exploration, large numbers of fall migrant passerines undoubtedly pass silently though the still fully leafed forest, and winter birding would likely yield pleasant surprises. But it is during springtime when Scioto Trail takes on special interest to birders. The gradual awakening of spring in Ohio's forests with color and song is the highlight of many a birder's year, and that is what I will concentrate on here. It all starts in early April. The ridges in the forest will seem largely empty, but resident species such as the many pileated woodpeckers are at their most conspicuous at this time. By the end of the first week of April the first warblers (aside from wintering yellow-rumps) begin to arrive at Scioto Trail, and yellow-throated and pine warblers and Louisiana waterthrushes are the likely candidates. Eastern phoebes and the first of what will soon be hundreds of blue-gray gnatcatchers begin showing up at that time as well. The variety increases throughout the month, with most nesting species putting in an appearance by the first of May.

Annual fluctuations of arrival dates due to weather patterns are part of Ohio spring birding, and Scioto Trail is no exception, so predictions of exact dates for spring movements are usually inaccurate, and will not be attempted here. Eager birders with more time to spare during April might find a greater variety of species by heading to Shawnee State Forest, a 45-minute drive south along Rt. 23. At nearly 60,000 acres, Shawnee is Ohio's largest state forest, and is usually five or so days ahead of Scioto Trail's passerine arrivals. By the second week of May, however, Scioto Trail stands on its own as one of Ohio's prime birding locations. Then, species staying to nest will be actively singing on territory throughout much of the day, and large troupes or single scattered migrants are possible anywhere. After mid-May the leaves fill out and birding becomes more frustrating.

The Ridges The first landmark upon entering the Scioto Trail area from US Rt. 23 on Stony Creek Road (SR 372) is a fire tower with a small parking area. The pines surrounding it often hold the first migrant pine warblers of the spring amidst groups of golden-crowned kinglets. Staff at the State Forest headquarters here keep feeders stocked during most of April, luring in species such as tufted titmouse,

¹ Available online at <http://www.hcs.ohio-state.edu/ODNR/Forests/forestmaps/sciototrailmap1.jpeg>.