

THE ORNITHOLOGICAL WORK OF S. W. WOODHOUSE
IN INDIAN TERRITORY

By JOHN S. TOMER

The first important ornithological survey made in what is now Oklahoma was that of Samuel Washington Woodhouse, who worked in the area in 1849 and again in 1850. While other naturalists had visited this area before Woodhouse, none had been as specifically interested in its ornithology as he. Others either were more concerned with other aspects of natural history or they made only brief observations of bird life in passing through the country. Their comments on birds were brief and scattered. No formal report on Oklahoma ornithology was made before that of Woodhouse.



Fig. 1. A view of "Bald Eagle Mound Camp," 2 miles west of what is now the town of Quay, in southern Pawnee County, Oklahoma. From a daguerreotype made 26 July 1850 by W. C. Mayhew. Shown, from left, are S. W. Woodhouse, standing at the head of his horse "Davy," A. R. Potts, I. W. Smith, J. R. Smith, and W. C. Mayhew. (Photograph of daguerreotype courtesy Museum of Northern Arizona).

To place Woodhouse's work in its proper historical perspective a brief review of the exploration and publications of naturalists who had come to Oklahoma lands before 1849 is in order. The first to visit the area with at least the incidental purpose of observing its natural history was the Frenchman, Fabré de la Bruyere, who travelled by boat up the Arkansas River in 1741 while on a trade mission to Santa Fe. Orders from his superior, Jean Baptiste Lemoyne Bienville, Governor of Louisiana, included instructions to make scientific observations of the country. He mistakenly left the Arkansas and followed the Canadian River upstream where in February, 1742, he became stranded in the dry river bed about 100 miles from its mouth. At this point he abandoned the expedition and returned to his base (Mathews, 1961, *The Osages*, Univ. Oklahoma Press, pp. 213-17). None of his scientific notes, if any were written, are known.

Thomas Nuttall, botanist and ornithologist, explored in what is now Oklahoma in 1819. He travelled up the Arkansas River to Fort Smith, Arkansas Territory, and from there made a trip overland southwestward, exploring the area where the Kiamichi flows into the Red River (Geiser, 1956, *Field and Lab.*, 24:43-60). Later he ascended the Arkansas to the mouth of the Verdigris where he stopped at the trading post of Joseph Bougie. From this point he explored the Neosho River to the saline spring about 6 miles east of the present town of Mazie, Mayes County. On another trip he travelled overland to what is now northwestern Creek County, returning along the Cimarron and Arkansas rivers to the post. Although Nuttall later became a recognized ornithologist, at this time he was interested in studying and collecting plants, so he did not write extensively about the bird life either in his account of this trip (Nuttall, 1821, *A journal of travels into the Arkansas Territory*, T. W. Palmer, Philadelphia) or in his later ornithological work (Nuttall, 1832-34, *A manual of the ornithology of the United States and Canada*, Hilliard and Brown, Cambridge, Mass.). Nice (1931: 39) wrote that Nuttall discussed in these publications only three bird species that he had observed in Oklahoma lands.

In 1820 Edwin James, botanist and geologist, and Thomas Say, zoologist, travelled through what is now Oklahoma returning from the Rocky Mountains. They were naturalists under Major Stephen H. Long on an expedition to determine and explore the source of the Red River. The party had divided into two groups in Colorado for the return trip, with James in one and Say in the other. They crossed what is now Oklahoma, James following the Canadian River, Say the Arkansas. Both groups arrived at Fort Smith, Arkansas Territory, in mid-September. A report of the expedition, including the naturalists' observations, was written by James (1823, *Account of an expedition from Pittsburgh to the Rocky Mts. . . . under command of Major Stephen H. Long, Cary and Lea*, Philadelphia); in her discussion of this work Nice (1931: 39) wrote that 25 species of birds were noted by James and 10 by Say while in Oklahoma lands.

Later, as army posts were established in this frontier country, some historically important ornithological work was carried on by army men who found time to collect specimens and record their observations. Colonel George A. McCall, who was stationed at Fort Gibson from January 1839 until August 1841 (McCall, 1868, *Letters from the frontier*, Lippincott, Philadelphia, pp. 366-378), made brief references to his bird observations in a publication on western birds (McCall, 1851, *Proc. Acad. Nat. Sci. Philadelphia*, 5: 213). Another officer, Lieutenant Henry L. Eustice, stationed at Fort Wayne in the eastern part of what is now Delaware County, collected bird specimens in 1842 (Tomer, 1959, *Auk*, 76: 94).

Although Woodhouse was the first scientist to make an extensive study of Oklahoma bird life, students of Oklahoma ornithology have not well understood his itinerary in the state, the full extent of his reporting, or the number and disposition of his Indian Territory collections. Margaret M. Nice (1931) and George M. Sutton (1967) have written briefly of Woodhouse's ornithological work in Oklahoma lands. Nice's understanding of his travels in Indian Territory was based on the dates of his bird specimens as listed in the U.S. National Museum catalog and on statements concerning Indian Territory trips in his report of the Zuni and Colorado River expedition (Sitgreaves, 1853). Although her conclusions are not completely wrong, they are somewhat misleading. Her statement "From the dates and localities on these [specimens] and a few notes in the list of birds we find that in 1849 Woodhouse was in the Cherokee Nation from June 25 to July 27, in the Creek Nation August 3 to October 27, in the Cherokee Nation November 2" (Nice, 1931: 40) is not quite accurate. Woodhouse actually worked along the boundary line between these two nations, exploring in both, day by day during most of these periods. Sutton (1967) also did not completely understand Woodhouse's itinerary; believing the "Childers Ford on the Verdigris River" (Woodhouse, 1852a: 6) to be near the present town of Childers in Nowata County, he made a point of visiting at least one place along the Verdigris that was said to have been a "ford," though he could not find the "high bluff of slaty sandstone" that Woodhouse had mentioned. Thus misled, he erroneously placed the locality at which Woodhouse observed the Swallow-tailed Kite (*Elanoides forficatus*), Ivory-billed Woodpecker (*Campephilus principalis*), and Common Raven (*Corvus corax*) about 45 miles north of where the birds had actually been seen (Sutton, 1967: 96, 321, 376).

Nice's knowledge of Woodhouse's writings was limited. She quoted only from the 1853 publication (Sitgreaves, 1853). Sutton used this document and also an additional one — Woodhouse's unpublished report (1852a) of the Indian Territory trips. Neither Nice nor Sutton mentioned the two reports Woodhouse prepared for Sitgreaves and Woodruff immediately after the trips of 1849 and 1850 (Sitgreaves and Woodruff, 1858: 5-15, 25-28), nor were they,

apparently, aware of Woodhouse's three journals of these expeditions (Woodhouse, 1849a, 1849b, 1850a). These additional sources contain references to several species and details of observations and collections not given in the previously cited reports.

The extent of Woodhouse's Indian Territory collections also was not known to either Nice or Sutton, since what they knew was limited to collections entered in the U.S. National Museum catalog. The specimens listed there were only about one-third of the total number uncovered during the course of this investigation. While these omissions do not seriously affect our knowledge

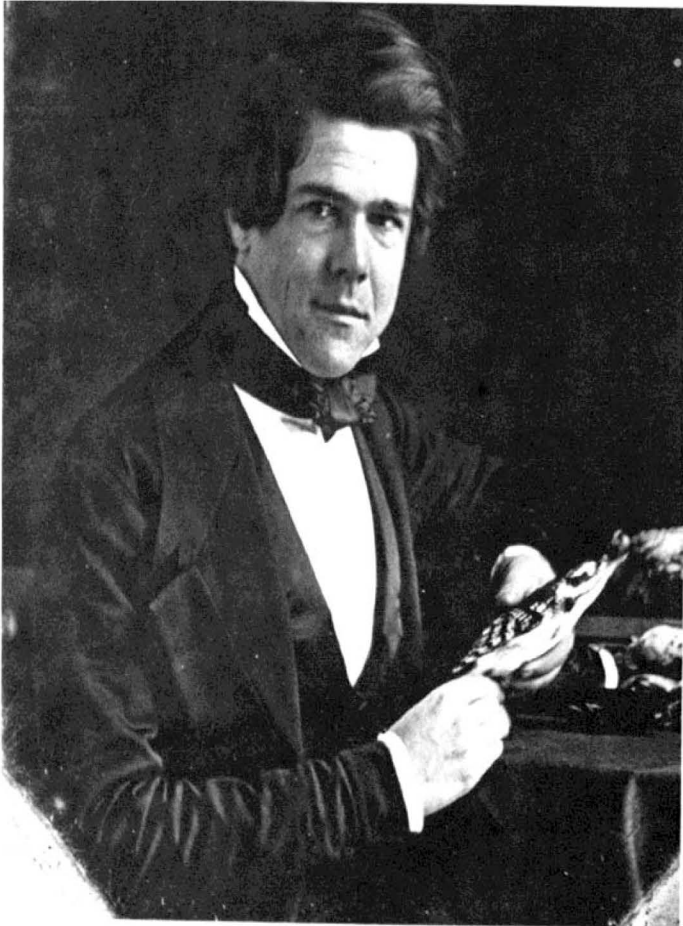


Fig. 2. Samuel Washington Woodhouse, aged 23 years. From a daguerreotype made in 1844 at about the time he entered the University of Pennsylvania Medical School. (Photograph of daguerreotype courtesy Museum of Northern Arizona).

of the Oklahoma avifauna of that period, they do show that no one has fully understood exactly where Woodhouse worked in Indian Territory or the extent of his reporting and collecting. It is the purpose of this paper to report on these subjects.

WOODHOUSE'S EARLY LIFE

Woodhouse was born 27 June 1821 in Philadelphia, Pennsylvania. He was educated in private schools in Philadelphia and in West Haven, Connecticut. Interested in birds at an early age, he became associated with the Academy of Natural Sciences of Philadelphia, where he must have known Thomas Nuttall, John K. Townsend, and others of its famous members. In 1845 he was elected a member of the Academy. After a short period of farming he entered the University of Pennsylvania and received the degree of Doctor of Medicine in 1847. Upon graduation he was appointed Assistant Resident Physician at the Philadelphia Hospital and was there when the opportunity came to join a United States Army expedition to Indian Territory (Stone, 1904). The expedition, to be led by Brevet Captain Lorenzo Sitgreaves, Corps of Topographical Engineers, was to survey the east and north boundary of the Creek Indian Nation. Woodhouse was offered an appointment as Acting Assistant Surgeon to serve as physician and naturalist with the survey party.

It is interesting to imagine how this opportunity was received by the 27 year old doctor, who was at heart a dedicated naturalist. He had no doubt read Nuttall's account of that scientist's experiences thirty years before in the country to which the expedition was to go. It was indeed a chance to explore where few naturalists had been. As Witmer Stone (1904) wrote, "Dr. Woodhouse was recommended and was not slow to accept the position, it being evidently much more to his liking than the sedentary life of a hospital physician. He reported in Washington in April, 1849, and was soon enroute for the Frontier."

THE JOURNALS AND ITINERARY OF THE 1849 EXPEDITION

During the 1849 expedition Woodhouse wrote daily of his observations and experiences in two small journals. The first, begun on 26 April and ended on 19 June, contains details of his trip from Philadelphia to Washington, D.C., where, on 27 April he joined the survey party; of the trip from Washington to Fort Gibson, Indian Territory (2 May to 6 June); and of the stay at Fort Gibson from 6 to 19 June (Woodhouse, 1849a). The second, begun on 20 June at Fort Gibson and ended on 29 December after he had arrived back at his home in Philadelphia, contains a wealth of detail concerning his natural history observations and experiences in the field (Woodhouse, 1849b). From descriptions of his party's camps and from comments about landmarks, the places at which he made observations and collected specimens can be determined closely. Many of the bird observations entered in his diary are the first on record for the area that is now Oklahoma. The itinerary of the expedition and the localities where his ornithological collections were made as he worked are developed largely using quotations from these journals.

The journals were hastily written in the field. Many words were misspelled and punctuation was almost completely ignored. The quotations are reproduced here *exactly as they were written* except for the occasional addition of a word in brackets to complete the meaning of a sentence or to clarify species- or place-names with modern synonyms. To save space, "isic" was not used to designate misspelled words, since most of them were easily recognizable. Only entries that are germane to the subject of this paper are quoted. The journals also contain many interesting comments about his experiences with the Creek and Osage Indian people he met on these expeditions.

Woodhouse's bird specimens are discussed here chronologically, as they were collected, from dates listed in the Academy of Natural Sciences of Philadelphia and the National Museum catalogs where the specimens were finally deposited, as will be discussed later. Specimen numbers from these two museums are designated by ASNP and USNM, respectively. The nomenclature of bird species, some of which replaces that of Woodhouse with modern synonyms, is that of the Fifth Edition of the American Ornithologists' Union's Check-list (1957) and its recent supplement (1973, *Auk*, 90: 411-19). Mammal names are from Blair, Blair, Brodkorb, Cagle, and Moore, 1957, *Vertebrates of the United States*. McGraw-Hill. New York.

Woodhouse arrived at Fort Gibson on 6 June 1849, having travelled up the Arkansas and Neosho rivers by boat. The next day he wrote in his journal: "Thursday 7th [June] Clear and hot . . . In the afternoon Capt [Sitgreaves] Lieut [Woodruff] and I took a ride over the prairie it was a magnificent sight to me not having seen anything before I saw nothing new to me in the Bird line here I find numbers of the *Hirundo fulva* [= *Petrochelidon pyrrhonota*, Cliff Swallow] quite abundant and the prairies are rolling containing many handsome plants partridges [= *Colinus virginianus*, Bobwhite] abound also the black throated Bunting [= *Spiza americana*, Dickcissel] & Meadow Lark [= presumably *Sturnella magna*, Eastern Meadowlark]."

On 20 June Woodhouse began his second journal (Woodhouse 1849b), as previously discussed. Quotations here describing his activities are from this journal.

The party remained at Fort Gibson until 20 June hiring men and outfitting for field work.¹ Woodhouse and the other officers were quartered in the fort, the men camped on the opposite bank of the Neosho River. On 21 June the party took to the field. Sitgreaves (1858:2) described this segment of the survey: "My instructions required me, first, to measure accurately twenty-five miles upon the old [Arkansas] territorial line, running north from the Arkansas river." This line, the east boundary of the Creek Nation in this area, ran directly north approximately 1 mile west of the present town of Okay.

¹The party of 1849 was thus described by Captain Sitgreaves in the official report of the expedition: "It consisted, besides myself, of Lieutenant Woodruff, topographical engineer, Mr. Isaac W. Smith, assistant surveyor, Dr. S. W. Woodhouse, physician and naturalist, a wagon master [very likely Mr. Burgess whom Woodhouse refers to in his journals] and thirty men."

Wagoner County. The route followed by the supply wagons to the northeast corner of the Creek Nation, where they would turn west, was probably the historic Osage Trace, later known as the Texas Road, that roughly parallels what is now Highway 69 in this area (Foreman, 1936, *Down the Texas road*, Univ. Oklahoma Press, p. 11).

On the first day out they camped on the east side of the Verdigris River about 1 mile south of what is now Okay, where they would stay until 29 June. Here Woodhouse wrote in his diary: "Thursday 21st [June] Clear & hot We all rose at day break and started for the Verdigris River four miles from Fort G. we encamped just above the ferry landing to the Creek agency and one mile below the falls . . . Friday 22d [June] Clear & hot shower in the afternoon commenced the survey I rose at day light took my gun and commenced looking for birds after hunting all the morning I returned without having discovered anything new I collected a few plants in the afternoon gave Shultz instruction in preparing bird skins ticks very troublesome I picked 6 off me this morning . . . Saturday 23d [June] Clear & hot took a ride in the morning with Mr. Burgess to explore the country we rode over part of the prairie but finding a large green headed fly very troublesome we made our way into the woods here we followed different trails we found trees of immense size white & red oaks, Poplar, Button wood, Cotton wood & soil deep alluvial and stony . . . This day I obtained a Hawk which I took to be *Ictina*

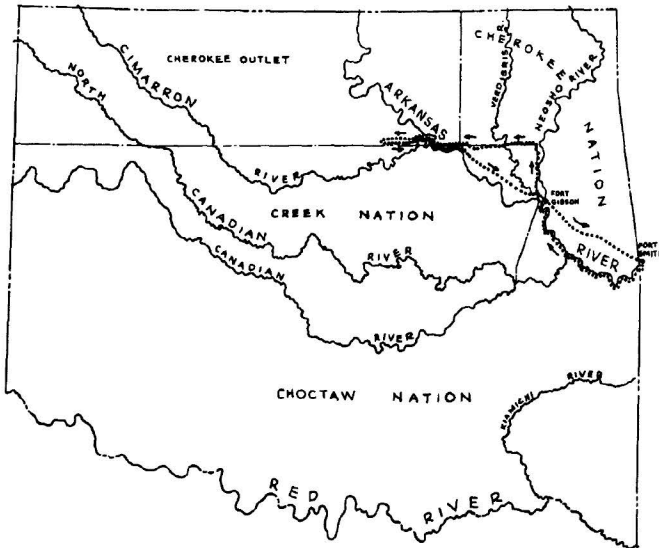


Fig. 3. Map of Indian Territory showing the route of Woodhouse's explorations along the boundary of the Creek and Cherokee nations in 1849. What is today the Panhandle of Oklahoma was at that time part of Texas.

Plumbea [*Ictinia mississippiensis*, Mississippi Kite] but on examination proved not to be it. it is a female & measures from tip of beak to tip of tail 15½ inches extent of wings 37½ inches its stomach was filled with Insects . . ."

Woodhouse's statement that this specimen was not a Mississippi Kite was an error. His measurements clearly show that the bird could not have been any other species found by him in the area. Investigation of his specimens suggests that he was probably confused by the streaked underparts and barred tail. Almost certainly the specimen was a juvenal Mississippi Kite now in the collection of the Philadelphia Academy, ANSP 2034, tagged as "sex unknown, date unknown," and listed in the catalog from the very general locality "Red Fork, Arkansas River" (see Fig. 4). Woodhouse later included — in his "List of birds collected during the summer and fall of 1849 in the Indian Territory" — the following: "*Ictinia plumbea*, Gmel., one female" (Sitgreaves and Woodruff, 1858: 13).

At this camp he also wrote: "Monday 25th [June] Foggy early in the morning clear at 1 o'clock P.M. Cloudy at 2 P.M. cool in the morning but it soon got warm. I took my gun and went to the woods below the camp where I obtained a few warblers the skins of which I prepared in the afternoon." Six Woodhouse specimens dated 25 June 1849 are listed in the catalogs of the Philadelphia Academy and the National Museum: a Red-bellied Woodpecker

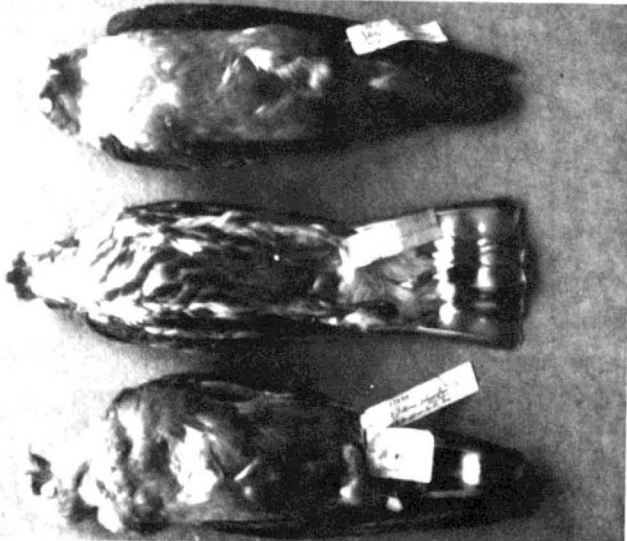


Fig. 4. Mississippi Kite specimens collected by Woodhouse in Indian Territory. The immature bird is probably the "female" taken 23 June 1849 near the present town of Okay, Wagoner County, Oklahoma (see p. 23). On that date Woodhouse thought the bird to be some other species. (Photographed 1 June 1972 at the Academy of Natural Sciences of Philadelphia by John S. Tomer)

(*Centurus carolinus*), USNM 12262; two Acadian Flycatchers (*Empidonax virens*), ANSP 83849 and 83863; one Prothonotary Warbler (*Protonotaria citrea*), USNM 12146; and two Kentucky Warblers (*Oporornis formosus*), ANSP 37221 and 37222. All of these were taken near camp on the Verdigris River 1 mile south of the present town of Okay in Wagoner County. One other specimen of Acadian Flycatcher, a male, ANSP 83848, dated only 1849 from the Cherokee Nation, also was probably taken in this area.

The next day he wrote: "Tuesday 26th [June] Rainy nearly all day cleared about 5 o'clock P.M. I then took a walk after birds saw nothing new I collected a few plants." A female Kentucky Warbler, USNM 12196, was taken on this date (see Table II). His last entry concerning birds at this camp was: "Wednesday 27th [June] Clear & hot I took a hunt in the woods below the camp but obtained but little a bird which I taken to be the *Sylvicola formosa* [= *Oporornis formosus*] is quite abundant in the thickets but it is difficult to shoot on account of the denseness of the thickets or its being too near you I also obtained a specimen of the *Sylvicola Cerulea* [= *Dendroica cerulea*, Cerulean Warbler] but it was so badly shot that I was unable to prepare it The *Pyranga rubra*¹ is quite numerous I obtained several males of mottled plumage adult birds I prepared two skins on returning and in the afternoon rode out on the prairie with Mr B[urgess] and Mr Shaw to look for a place for our next Camp having found a place about 6 miles off we returned. I brought back with me a few plants which I placed in the press we had a beautiful moon light night." Woodhouse later reported that he collected 3 Summer Tanagers (*Piranga rubra*) in 1849, 2 males and 1 female (Sitgreaves and Woodruff, 1858: 13). The males were probably two of the "several" mentioned above; the female was taken 3 August, as discussed later. The males are likely ANSP 37202 (marked male) and USNM 12140 (unsexed), dated 25 June and 26 June respectively (see Tables I and II).

On 28 June the party moved north, spent the night bogged down on the prairie, and next day camped near the present town of Okay. Here he wrote: "Friday 29th [June] Foggy at daylight we started and encamped on a small creek about half a mile from this place there is a small grove of trees following this creek and makes quite a pleasant camp . . . one of the men the night before killed a white opossum [*Didelphis marsupialis*, Common Opossum] with a black spot on the top of the head I told them to put it in one of the wagons, but this evening when I wanted to skin it it was not to be found." Woodhouse (1852a:4) later speculated about this lost specimen: "The first night on the prairie one of the men brought me a specimen of opossum *Didelphus* which was white with the exception of a black spot on the top of the head this unfortunately was stolen in all probability by the dogs during the night. the

¹The bird Woodhouse considered "quite numerous" was not the Scarlet Tanager, a species known at that time as *Piranga rubra*, but the Summer Tanager, a species then known as *P. aestiva*, a fact made clear in his list of birds (Sitgreaves and Woodruff, 1858: 10).

Cherokees told me that this kind was common about there, which if it be the case, it is new I saw but the one."

The survey party moved about 2 miles north on 29 June. On 2 July they moved 13½ miles farther north, passing east of what is now the town of Wagoner, to establish a camp on Flat Rock Creek about 2 miles west of its confluence with the Neosho River. The next day Woodhouse wrote in his diary: "Tuesday 3d [July] Clear & hot. Thermometer 87° at 1 A.M. Showery in the afternoon in the morning I took a stroll along the creek and shot a specimen of the *S. Mitratus* [= *Wilsonia citrina*, Hooded Warbler]. The young of the *Sylvicola Canadensis* [= *Dendroica caerulescens*, Black-throated Blue Warbler] abundant.¹ in picking up a stone I received a severe sting and dropped it quickly and on turning it over I found a scorpion I immediately applied it to my mouth and commenced sucking. The pain did not last long and I suffered no inconvenience from it. The praries here are covered with numerous limestone rocks many of which have the prickly pear growing on them. In the afternoon I prepared three birds. . . . on this creek I found numerous Unios." The Hooded Warbler specimen Woodhouse wrote of shooting at this place in Wagoner County is probably ANSP 83852, dated July 1849, from the Cherokee Nation (see Table I).

At this same camp he wrote: "Wednesday 4th [July] Cloudy & rain until 9 o'clock clear and warm the rest of the day. . . . tried to catch some fish but found them scarce. I pressed numerous plants. in the afternoon I took a walk down the creek with Lt. W to try and obtain some fossils and procured a few found birds very scarce." Two Cerulean Warbler specimens listed in the National Museum catalog were taken on this date; the first, USNM 12160, a young male, is presently in the museum; the second, USNM 12162, sex unknown, has disappeared (see Table II). Both were taken in the Cherokee Nation near this camp. The next day he wrote: "Thursday 5th [July] Clear & hot I took a walk in the morning up Flat Rock Creek found birds very scarce after having walked one and a half miles above the camp on the north side which was well covered with timber the creek up to this point was broad and deep here it became shallow and I crossed and returned by the opposite bank where there is but a narrow strip of wood between it and the prarie. I obtained specimens of the *Buteo hyemalis* [= *Buteo lineatus*, Red-shouldered Hawk] & *Vermivora solitarius* [= *Vermivora pinus*, Blue-winged Warbler] also a squirrel [probably *Sciurus niger*, Eastern Fox Squirrel] which I prepared on my return." A female specimen of the Blue-winged Warbler in the National Museum collection is very likely the bird mentioned above. It is USNM 12195, listed without a date but shown to have been taken in the Creek Nation where Woodhouse hunted on this date along the upper reaches of Flat Rock Creek.

¹See George M. Sutton's (1972) analysis of this reference in his note "Did Woodhouse ever see the Black-throated Blue Warbler in Indian Territory?" Sutton concludes, ". . . so I believe Woodhouse must have written the wrong scientific name without bothering to check what he had written. . . . the young warblers that Woodhouse saw might, in my opinion, have been Cerulean Warblers. . . ."

The party travelled north across the prairie (see Figure 5) on 10 July, camping near Brush Creek, about 2½ miles south of the present town of Chouteau in Mayes County. They remained at the Brush Creek camp for 21 days while the engineering officers took celestial sightings to determine the latitude and longitude of the corner, which was a short distance north of the camp.

While here, Woodhouse explored the area extensively and commented thus: "Wednesday 11th [July] Clear & hot I took a tramp after breakfast up the Creek found birds rather scarce I saw several specimens of *Sylvicola mitrates* [= *Wilsonia citrina*] & *formosa* [= *Oporornis formosus*] . . . Thursday 12th [July] Clear and very hot in the morning at 2 o'clock the Thermometer was 89° at 2½ o'clock it rained heavily and the Creek rose very high I took a hunt in the morning but obtained nothing . . ." Specimens of the Kentucky Warbler, USNM 12198, and Common Yellowthroat (*Geothlypis trichas*), USNM 12194, were collected on 14 and 15 July respectively in the area near camp (see Table II). "Monday 16th [July] Clear & hot In the morning I shouldered my gun and took a walk over the prairie I shot the *Muscapa forficatus* [= *Muscivora forficata*, Scissor-tailed Flycatcher] she had a nest with young ones this was in a scrub Oak on the Prairie . . . spent the afternoon skinning birds and pressing plants." Woodhouse later referred to the Scissor-tailed Flycatcher and its nest on the prairie in his first published report on the birds found here (Sitgreaves, 1853: 37). The specimen, USNM 12296, is no longer in the collection (see Table II).

He also wrote at this camp: "Tuesday 17th [July] Clear & hot in the morning . . . Mr Smith & I took a hunt after birds but found none such as I wished to obtain . . . I then took my gun and walked up the creek the timber



Fig. 5. View of the prairie concerning which Woodhouse wrote: "A short distance from the falls [of the Verdigris River] we enter the great Osage prairie, a beautiful rolling country, interspersed with numerous natural mounds" (Woodhouse, in Sitgreaves and Woodruff, 1858: 5). Photograph taken 6 miles south of Chouteau, Oklahoma on 18 June 1972 by John S. Tomer.

here was large with but little underbrush but I found no birds . . . Thursday 19th [July] Cloudy until 12 o'clock some rain I took a walk in the morning to hunt birds but obtained none after dinner Mr Smith & I went in pursuit of the *Tyrannus forficatus* [= *Muscivora forficata*] we saw three but were unable to approach them . . . Saturday 21st [July] Clear all day warm in the morning Mr. S & I took our guns and rode over to the Creek north of us [Chouteau Creek] and followed it to its mouth at the Grand [= Neosho] River we saw but few birds and they were quite common we returned at 1 P.M. and it was quite warm." Three female specimens of the Dickcissel were collected by Woodhouse on these hunts, ANSP 37176 on 20 July and USNM 12516 and USNM 12517 on 21 July (see Tables I and II).

The next entries in the journal at this camp were: "Monday 23d [July] Cloudy and Cool. Mr S & I took our guns and took a walk up the Creek in pursuit of Birds but found none of any value after going about two miles it commenced raining and we were forced to return . . . towards evening the old black fellow William went to hunt a deer [*Odocoileus virginianus*, White-tail Deer] and towards dark returned having shot one he then took a horse and brought in a fine doe this created quite an excitement in camp being the first Deer obtained . . . Wednesday 25th [July] Clear all day and pleasant in the morning I took a hunt for birds but obtained none . . . Thursday 26th [July] Clear all day but cloudy in the evening I obtained specimens of the *Sylvicola prothonotarius* [= *Protonotaria citrea*] which I prepared in the afternoon . . . one of the men killed a large rattlesnake in his Tent." The Prothonotary Warbler specimens are probably USNM 12147, a female, dated July 1849 taken in the Cherokee Nation and ANSP 37219, a male, dated July 1849 also from the Cherokee Nation where Woodhouse hunted east of the camp. Four specimens dated 27 July 1849, and not mentioned in the diary, are listed in the museum catalogs. They are USNM 12261, a male Red-bellied Woodpecker; ANSP 37195 and 37197, a female and male Cliff Swallow respectively; and ANSP 83855, a female Tree Swallow (*Iridoprocne bicolor*), all from the part of the Cherokee Nation that is now southern Mayes County.

Woodhouse's last references to natural history at the Brush Creek camp were: "Saturday 28th [July] Clear all day except early in the morning then there was a heavy fog. warm all day. In the morning I took a hunt for birds and by my concealing myself in the bushes was enabled to obtain a specimen of the *Tyrannus Forficatus* which proved on dissection to be a female I remained in these bushes for about two hours but was unable to obtain the Male in the afternoon I skinned them." A female Scissor-tailed Flycatcher at the Philadelphia Academy, ANSP 37145, dated 29 July 1849, is almost certainly this bird (see Table I). "Monday 30th [July] . . . Lt W & I took a walk in the afternoon down the Creek to the Rocky Bluffs I was unable to obtain any birds. Tuesday 31st [July] Cloudy until 10 A.M. and Cold Thermometer at 5 A.M. 54° I shot three Mitred Warblers and prepared them in the afternoon." One specimen taken near this camp is ANSP 37218, a male Hooded Warbler from the

Cherokee Nation. Two other Hooded Warblers, a male and female. USNM 12148 and 12150, dated only July 1849 from Cherokee Nation, could be the other two. A male Blue Grosbeak (*Guiraca caerulea*), ANSP 37183, dated July 1849 from the Cherokee Nation was taken either at this camp in Mayes County or at the Flat Rock Creek Camp in Wagoner County during this month.

After setting a marker at the northeast corner of the Creek Nation near this camp the party began the survey of the north boundary line. It was a parallel of latitude running west from this corner across the present State of Oklahoma to the 100th meridian, approximately 1/8 of a mile south of the present Highway 33 as it passes through Mayes and Rogers counties.

On 1 August the party left the Brush Creek camp, bivouacked one night on the prairie, and on 2 August established a camp 9½ miles west on a timbered hill about 1 mile north of the present town of Inola, Rogers County. Here Woodhouse wrote in his diary: "Friday 3d [August] Clear & hot Thermometer 85° Mr S and I took our guns and stroled through the woods hunting birds I obtained a few none of which were rare and returned after dinner prepared them." Two specimens were taken at this camp on 3 August — ANSP 37147, a male Scissor-tailed Flycatcher, and USNM 12142, a female Summer Tanager. Another specimen, USNM 12523, a male Blue Grosbeak taken in the Cherokee Nation, date unknown, could be the one Woodhouse referred to when he wrote later of his activities at this camp: "I also procured here a number of specimens of birds among them *Guiraca coerulea*, Linn." (Woodhouse, 1852a:6).

On 6 August the party moved to a camp on the east side of the Verdigris River near the present Highway 33 bridge. While the crew prepared a ferry to move the wagons across the river, Woodhouse explored the countryside north into the Cherokee Nation and south into the Creek Nation, and made these entries in his diary: "Wednesday 8th [August] Clear & hot Ther 90° The men made rafts I walked out with my gun but could not obtain any birds . . . Thursday 9th [August] Cloudy and some rain in the morning clear in the afternoon in the morning I took a walk to the river accompanied by Lt W & Mr B I took my gun along but shot nothing . . . Friday 10th [August] Clear Ther 64° at 5 A.M. 85° N. in the morning Lt W Mr S & I with my gun took a walk out into the Prarie and then down to the Verdigris and returned through the woods & bushes to Camp much fatigued and nearly devoured by the musquetoës as usual finding no birds spent the afternoon in camp. Saturday 11th [August] Clear & hot Ther 89° In the morning Mr S Lt W & I took a walk . . . about one mile from Camp . . . we returned to camp without seeing anything to shoot."

From this camp the party moved to a locality about 2½ miles west of the Verdigris River and 1¼ miles north of the present Rogers-Wagoner county line. Woodhouse wrote this account of the move: "Thursday 16th [August] Clear Ther 90° packed our things and struck the Tents and started for the river. the most of the wagons and things were moved across the river yesterday

we got to the river at 10 A.M. . . . The wagons were run with their wheels in each canoe and they were taken across by a rope stretched across the river we passed through a thick swampy piece of woods for the distance of two miles when we struck a very steep high hill which was ascended with considerable difficulty . . . we passed along a high ridge covered with post oaks and arrived at the Creek town called Chehauha at 4 o'clock This is a large town extending many miles their houses are at some distance apart . . . They are situated on the highest ground so that they may see round the country for miles . . . we encamped on the edge of the prairie near the trail leading to Childers'es and it was quite late when we got our things fixed. Saturday 18th [August] Clear Ther 91½° Since we have been here we have had fine sotherly breezes in the morning Mr B & I took a walk through the Creek town taking our guns with us but we found nothing to shoot . . . Tuesday 21st [August] Clear Ther 92° . . . prepared a hawk *B. hyemalis* [= *Buteo lineatus*] nothing remarkable happened this day."

The next day camp was moved: "Wednesday 22d [August] Clear Ther 91½°" packed our things and moved Camp in the Timber on the edge of the prairie about 2 miles off this is a beautiful situation commanding a fine view of the Prairie to the north and west. I packed my collection and sent it to the Fort . . . Friday 24th [August] Clear Ther 93½° in the morning rode to the ravine near the Verdigris to obtain fossils . . . took my gun with me but found nothing to shoot . . . Thursday 30th [August] The wind during the night blew furiously from the north and towards morning rained . . . made my dinner off Grouse [= *Tympanuchus cupido*, Greater Prairie Chicken] we have had plenty of them for several days past they were shot by Shultz." Two of Woodhouse's specimens in the Academy collection, ANSP 37198 and ANSP 83861, both Cliff Swallows, sex unknown, were taken in August, 1849, in the Creek Nation, either in what is now southern Rogers County or in northern Wagoner County (see Table I).

Woodhouse (1852a:6-7) later summarized thus observations made by him along the Verdigris River, in what is now southwestern Rogers County and northwestern Wagoner County: "At Childers Ford on the Verdigris River, the point at which the line crosses, on the eastern shore there is a high bluff of slaty sandstone. Here I found the swallow tailed Kite . . . quite abundant. The timber in this vicinity is quite large . . . crossing this river we camped near Chehau town which is situated on a high timbered ridge . . . following this ridge north about two miles it terminates in a bluff about fifty feet perpendicular, and forms numerous deep canyons . . . these rocks afford breeding places for the Ravens . . . I was awakened one night whilst in the camp by the cry of a panther [*Felis concolor*, Mountain Lion] . . . in the swamp back of our tent . . ." Woodhouse wrote elsewhere (1858:13) that he collected a male Swallow-tailed Kite in 1849 but there is no record of the specimen in the catalogs of the ANSP or USNM collections.

On 4 September the camp was moved to a location in Wagoner County

about $\frac{1}{2}$ mile south of the county line on the west bank of Spunky Creek. Here Woodhouse wrote: "Tuesday 4th [September] Clear Ther 89° Moved Camp Left at about 9 $\frac{1}{2}$ o'clock and encamped about 5 miles distant on the western bluff of [Spunky Creek.] the Bushyhead branch of Verdigris . . . The situation of our Camp is a very pleasant one being about 45 to 50 feet above the Creek and having a fine view of the Prarie . . . it is about $\frac{1}{4}$ mile south of the line. The ground is here covered with small fragments of stone filled with fossils - it much resembles Limestone . . . There growing among these stones I found a curious Thistle of a purple color [identified later as *Eryngium leavenworthii*, Eryngo (Woodhouse, 1852a:7)] . . . Wednesday 5th [September] Clear Ther 90° at 5 PM it commenced raining and was attended with Thunder and Lightening In the morning I took my gun and followed the Creek for some distance . . . After leaving the Creek I struck off across the Prarie in a northwesterly direction and climbed to the top of a high mound [= Indian Hills] . . . I had a magnificent view of the surrounding country in some directions I suppose I could see 30 miles I followed this ridge a long distance not having found anything to shoot and one of my barrels having had a load in it for several days I fired it in the air and it bursted doing no other harm than scourching my Thumb and fore finger a little . . . I then returned to Camp much fatigued after walking several miles through the high grass The musquetoes were very bad and we retired early."

On 6 September camp was moved 8 miles west, probably to Mill Creek near the present McClure Park in the eastern part of Tulsa, Tulsa County. Here Woodhouse wrote: "Friday 7th [September] Clear Ther at 6 A M 52° at 2 P.M. 83° In the morning I took a walk and made a collection of plants and pressed them took another to a Creek house about one mile from Camp . . . I then returned by the Creek which I found very crooked and collected a variety of shells . . . I found nothing worth shooting."

On 8 September camp was moved 4 miles westward to a small tributary of the Arkansas River still in what is now the city of Tulsa. Woodhouse wrote here: "Saturday 8th [September] Clear Ther 81° . . . There are a few scattering trees on this stream and we have our tents pitched under the shade of some of them on the bank of the Creek which is about eight feet high . . . Shultz shot a large faun and Mr S a Grouse so that we have again commenced living on game . . . About one mile to the east of this Camp there is bituminous Coal of an excellent quality . . . Sunday 9th [September] Clear Ther 80° Collected and dried some plants took a walk of several miles in the afternoon with Lieut W on the Prarie."

On 10 September the party travelled to a new camp about 1 mile west of the present downtown area of Tulsa. Woodhouse described the move: "Monday 10th [September] Clear Ther 83° Moved Camp to John Smiths in a Creek town [Talassee, Tulsa of today] near the Arkansas. We started at 8 o'clock A.M. and passed over a beautiful country. The instrument wagon upset twice

the first time in a Creek and our things were much wet we arrived at the present place which is about eight miles from our old Camp at 1 o'clock. Our Camp is situated on top of a high hill on a Cattle stamp next to a Corn field. The water we get from a spring which is about $\frac{1}{4}$ of a mile distant. In the evening Lieut W and I took a walk. Our attention was attracted by a brilliant Meteor in a North East direction it appeared quite near. We returned to Camp and went to bed. Some Indians passed with their horses loaded with buck eye root which they said was to poison fish in the Verdigris . . . Tuesday 11th [September] Ther 84° Clear in the morning I overhauled my things that got wet yesterday by the wagons upsetting My collections of shells were wet and mixed so that I had to overhaul them and wrap them over In the afternoon I [took] a strole with my gun but found nothing to shoot. Wednesday 12 [September] Clear Ther 82° Captain and I took a ride to hunt a place for our next Camp rode about 3 miles and a half found a rode leading most of the way suitable for a wagon . . . in the afternoon I overhauled my collection of plants and we dined at 5 o'clock off Roast Wild Turkey [*Meleagris gallopavo*] which we bought from an Indian for 50 cents . . . Thursday 13th [September] Ther 82° Clear I shouldered my gun and took the Dogs and walked to the Arkansas River This I found very low and more than half of the River dry the bottom consists of white sand much resembling the sea shore only it was much more solid which I suppose was caused by its being intermixed with clay. On my return my attention was attracted by the old Dog he having found something in an old hollow tree lying on the ground . . . I found it was an Opossum . . . I walked several miles but found nothing worth shooting and returned to Camp at noon."

At the next camp Woodhouse wrote: "Saturday 15th [September] Ther 83° We packed our things and moved Camp about three miles and a half distance on the road leading to the Red fork [=Cimarron River] our tents we pitched under some fine trees on the edge of a small Prarie. This is at a Cherokeees by the name of Chicken Cock." His only reference to hunting activities at this camp was: "Monday 17th [September] Ther 87° In the morning I started with Mr B taking my gun along to hunt a place for our next Camp . . . I found nothing to shoot returned to Camp and overhauled my plants."

The next day the party moved to a new campsite still in the present Tulsa County. Woodhouse thus described the move and his activities: "Tuesday 18th [September] Ther 90° Clear we have found this day exceedingly oppressive there being but little air stirring we packed our things and moved camp to Mr Poast Oak's and we have named the Camp after him it is situated in some timber on a small branch this is about two miles from our last camp . . . Thursday Sept 20th Cloudy 85° In the morning I went out with the surveyors taking my gun & fishing line I found nothing to shoot I obtained some bait and caught a number of fish large Sun fish and a fish they call Trout."

Activities at the next camp were described thus: "Friday 21st [September] Cloudy Ther 78° We packed our things and moved Camp about two miles on

the bank of the Arkansas surrounded with very high hills with large masses of sandstone sticking out of all shapes . . . Saturday 22nd [September] In the morning Mr B & I rode to the Red Fork of Arkansas I took my gun along but found nothing worth shooting."

From 24 through 28 September the party moved west, camping at intervals along the north bank of the Arkansas River in what is now Tulsa County. Woodhouse made these notations in his diary during that time: "Thursday 27th [September] Ther 79° Clear Mr B & I took our guns and after taking considerable of a tramp returned to Camp without any thing. Friday 28th [September] Ther 80° Cloudy Mr B & I rode to the river Shultz obtained a specimen of F Peregrinus [=*Falco peregrinus*, Peregrine Falcon] and 4 Anas Boschas [=*Anas platyrhynchos*, Mallard] . . . after taking a lunch I rode out to the line passed over several large hills & ravines. Here the red Sand stone makes its appearance in every direction." The Peregrine Falcon specimen was mentioned by Woodhouse in a later publication, where he wrote, "The specimen in my collection was taken in the Creek Country" (Sitgreaves, 1853:60). On the date this specimen was obtained, 28 September 1849, the expedition was camped in Tulsa County on the bank of the Arkansas River near the present Tulsa-Osage county line. None of the five specimens mentioned in the diary are in the ANSP or USNM collections today.

On 29 September the party left Tulsa County and encamped in Osage County on the east bank of the Arkansas near a ford ½ mile above the mouth of the Cimarron. On 1 October they crossed at the ford and camped on the north bank of the Cimarron in what is now Pawnee County. On this date Woodhouse collected a female Killdeer (*Charadrius vociferus*) which is listed as USNM 12657, from the Creek Nation. A specimen of Bonaparte's Gull (*Larus philadelphia*) also was taken on this date. It was listed as USNM 12581, sex unknown, from the Creek Nation. Woodhouse later wrote: "I procured a young specimen of this bird at the mouth of the Red Fork of the Arkansas River" (Sitgreaves, 1853:105). The camp was north of the boundary line in the Cherokee Nation, in what is now Pawnee County. If these specimens were collected south of the boundary in the Creek Nation, as noted in the catalog, they were likely taken either on the Arkansas in Tulsa County or on the Cimarron in Creek County, near the confluence of the two rivers. The Killdeer specimen was lent to the Chicago Academy of Science in 1870, where it was destroyed by fire; the gull has disappeared without a trace.

Later at this camp Woodhouse wrote: "Thursday 4th [October] Cloudy and rain in the afternoon Ther 79° There were numerous flocks of Wild Pigeons [=*Ectopistes migratorius*, Passenger Pigeon] flying over in the morning Mr B & Captain rode around the bend of the River to hunt a place for the next Camp. I prepared a specimen of *Fulica Americana* [American Coot] that one of the men caught along the river hiding with its head between two stones." This specimen was entered in the National Museum catalog on 20

July 1859 as USNM 12633, a female American Coot, taken 3 October 1849 in the Creek Nation in what is now either Creek or Tulsa County, approximately 1 mile south of camp. The specimen was lent to the Chicago Academy of Science in 1870, where it was destroyed in the great fire of 1872.

Woodhouse's last entry at this camp was: "Friday 5th [October] Clear Ther 70° I remained in Camp during the morning and put my things in order in the afternoon I took my gun and tried to find some specimens but was unsuccessful."

The camp was moved on 6 October. On 8 October it was moved again — to a spot near the Cimarron River about 5 miles southeast of the present town of Terlton in Pawnee County. Here Woodhouse wrote: "Monday 8th [October] Clear Ther 73° Moved Camp . . . We had breakfast by the light of a Candle and the teams were in motion at daylight At 1 P.M. we encamped near the Red Fork at the distance of eight & a half miles from our last Camp it is situated on the side of a hill thinly timbered in the bottom there is much Pea vine and our horses have a fine Chance of getting plenty to eat. Tuesday 9th [October] Cloudy showery in the afternoon Ther 67° In the morning I took a long tramp but obtained nothing I prepared two birds in the afternoon." One of these was a male Greater Yellowlegs (*Tringa melanoleuca*), USNM 12606, dated 9 October 1849 from the Creek Nation. It was likely taken along the Cimarron River in Creek County a few miles from camp. He also wrote at this camp: "Wednesday 10th [October] Clear Ther 66° Mr B & I took a ride in the morning over the hills I found nothing to shoot."

On 12 October the party moved 5 miles west to a point about 1 mile south of Terlton, Pawnee County. Woodhouse wrote: "Saturday 13th [October] Clear Ther 65° until noon it then clouded over and at 5 P.M. commenced raining. I took my gun and was hunting all the morning and returned without having shot anything excepting a Crow (*Corvus Americanus*) [= *Corvus brachyrhynchos*, Common Crow] I saw numerous Turkeys but was not able to get within gunshot so it was also with the Ivory-billed Woodpecker (*Picus Eubereus*)."

In a later report Woodhouse (1852a:7-8) wrote the following account of the birds he observed along the Arkansas and Cimarron rivers in what is now western Tulsa, southern Osage, southeastern Pawnee and northwestern Creek counties: "Five miles from here the red sandstone commences and continues to the crossing of the Arkansas where it is found on both banks of the River. The Timber of this stream is of a good quality and abundant. It consists of Cottonwood, a variety of Oaks, Elm, Mulberry, Buttonwood, Walnut, Hickory, etc. Numerous flocks of Parakeets (*Conurus carolinensis*, Linn) [= *Conuropsis carolinensis*, Carolina Parakeet] also Turkeys (*M. Gallopavo*) and numerous other birds frequent this timber, also wolves (*C. latrans*), etc, Foxes (*C. Virginianus*), squirrels *Sciurus Carolinensis*, *S. Macroureus* and *S. Hudsonicus*, the Raccoon (*Procyon lotor*), Opossum (*Didelphis Virginianus*, Show), Skunk

(*Mephitis Americana*) [= *Mephitis mephitis*, Common Striped Skunk] etc. The lakes in this vicinity were filled with water fowl. among them a number of Ducks the mallard (*Anas boschas*, Linn.) Shoveller (*Spatula clypeata*, Linn.), Summer [= Wood] Duck (*Aix sponsa*, Linn.), also different Herrons (*Ardea*). Whilst encamped at the mouth of the Red Fork, the wild Pidgeons (*Ectopistes migratorius*) were quite numerous. I procured specimens of Bonaparts Gull (*Larus Bonapartii*, Swains.) [= *Larus philadelphia*, Bonaparte's Gull] and the Coot (*Fullica Americana*, Gmel.) the White Pelican (*Pelecanus trachyrhynchus*, Lath.) [= *Pelecanus erythrorhynchus*] were abundant in the Arkansas, and the Carolina Rail (*O. Carolina*, Linn.) [= *Porzana carolina*, Sora] about the lakes. Ten miles from the mouth of this river I saw the ivory billed woodpecker (*Campephilus principalis*, Linn.) also on the Verdigris and Arkansas, but in no place was it abundant, whilst the pileated (*Drycopus pileatus*, Linn.) [= *Dryocopus pileatus*] was abundant, also a few of the Towhee Arctic Finch (*Pipilo arctica*, Swains.) [= *Pipilo erythrophthalmus arcticus*, a western race of the Rufous-sided Towhee]."

The next camp was located about 2 miles southwest of the present town of Jennings, Pawnee County, on 16 October. The diary contains this account: "Tuesday 16th [October] Clear Ther 58° Moved Camp left at 8 A.M. and arrived at this place at 12½ P.M. This being 6¼ miles from our last Camp the sight coming out of the Woods and getting on a mound in the Prarie and then looking round in every direction (it being very high) was beautiful. The trees having commenced changing they are now of various colors which added to the beauty of the scene. The country that we have been passing over for 30 miles back has been of the Red Sandstone it is now interspersed with Limestone such as is to be found at the bushy Branch of Verdigris. I hunted for specimens of birds this morning but obtained none I saw a specimen of the Tyranus Forficatus but was unable to shoot him. This Camp is situated in the Poast Oak timber on the edge of the Prarie which I believe to be the Great western Prarie Wednesday Octr 17th Ther 65° Clear Mr B rode out to hunt a place for our next Camp I remained in Camp. When he returned he reported having seen fresh Indian signs and Buffalo [= *Bison bison*, Bison] sign about 3 weeks old."

The party moved about 3½ miles west on 18 October to a camp located about 5 miles east of the present town of Quay on the Pawnee-Payne county line. The survey was terminated for the season at a point 7 miles west of this camp near a natural mound referred to later by Woodhouse as "Bald Eagle Mound." On 20 October the party began the trip back to Fort Gibson. Woodhouse wrote thus on the first day of the return trip: "Saturday 20th [October] Clear Ther 67° at 7½ A.M. everything being packed we commenced our march homeward. I left the Train and went with one of the men [illegible] a hunting we started [illegible] but were unable to get a shot at them also a flock of Turkeys . . . Shultz & Mr S returned about 4 P.M. having with them two Turkeys & some Partrages one of the Turkeys was an old gobbler

and weighed about 17½ lbs I had him skinned but on finding that his feathers were dropping out so fast I had to throw the skin away on account of his moulting. This I regretted exceedingly as it was the finest bird of the kind that I have ever seen." The trip to Fort Gibson was continued over the route they had followed moving west. On 25 October the party crossed the Arkansas at the ford and continued along the north side of the river to the present site of Tulsa. Here they left their previous route and turned southeast to travel directly toward the fort. They passed the Coweta Presbyterian Mission in what is now Wagoner County on 30 October and arrived at the Neosho River opposite Fort Gibson on 31 October. On 29 October, as they passed through eastern Tulsa County, Woodhouse shot a male specimen of the White-crowned Sparrow (*Zonotrichia leucophrys*). It is now ANSP 83858 (see Table I). Two other specimens, a male American Kestrel (*Falco sparverius*), ANSP 37119, and a male White-crowned Sparrow, ANSP 37192, both from the "Creek Nation," dated only October 1849, could have been taken anywhere on the western leg of the survey where they worked during October (see Table I).

The expedition remained at Fort Gibson through 4 November, storing their equipment and concluding the business of the year. Woodhouse continued collecting near the fort, where he shot a female Greater Prairie Chicken, USNM 12566, dated 2 November 1849, from the "Cherokee Nation."

The party left on 5 November for Fort Smith where they would board a river boat. On 6 November at a camp in the present Sequoyah County, Woodhouse made his last entry pertaining to the natural history of the country: "Tuesday 6th [November] Cloudy until nine A.M. It then commenced clearing and we had a fine day. We rose at daylight but the teams did not get started until 7 A.M. . . . after going about 3 miles we left the Military road & took the Whiskey road as they said it was the best and avoided the Mountains . . . we saw great numbers of Wild pigeons all day in some places the trees were almost breaking down with them. Grouse also in great flocks in one of which I counted 70 and some flocks there were greater numbers. We crossed the Salaiseau [=Sallisaw Creek] about 4 P.M. This is a small stream but was much swollen by the rains we continued our march until 4½ P.M. when we came to a halt on the edge of the Prarie which place we concluded [to] bivouac . . . the trees in this timber was filled with Grouse but our powder had got wet the day before and we were unable to obtain any." The party arrived at Fort Smith on 7 November, where they embarked 10 November on the river boat *St. Francis* for the trip down the Arkansas River on their way east. They arrived in Washington on 27 December. Woodhouse left immediately for his home in Philadelphia, arriving there on 29 December.

THE NATURAL HISTORY REPORT OF THE 1849 WORK

Woodhouse deposited his specimens at the Academy of Natural Sciences of Philadelphia and wrote a report on the natural history of the country covered by the survey. The report, dated 20 February 1850, was addressed to Captain Sitgreaves. It was later published, with a short account covering his work in 1850, as part of the official report of the boundary survey (Sitgreaves and Woodruff, 1858:5-15).

Woodhouse's report of the 1849 work contains a geographical description of the country with comments on the geology and plant and animal life, a catalog of species of plants and animals observed, and a list of specimens collected. The list of birds is historically interesting as it is the first published list of Oklahoma birds. It contains 114 species. Many of the names are badly misspelled and one is so garbled that no reasonable synonym could be found for it: "*Turdus mosacilleae*." Both "*Pipilo arctica*, SWAINS." and "*Pipilo erithrothalma*, LINN." as listed are now considered one species, *Pipilo erythrophthalmus*, Rufous-sided Towhee. Thus the number of recognizable species in the list is 112. Five species not mentioned in any of Woodhouse's other reports and not heretofore known to have been seen by him in Oklahoma, are on the list: "*Buteo Haliaetus*" [= *Pandion haliaetus*, Osprey], "*Caprimulgus Vociferous*, WILS." [= *Caprimulgus vociferus*, Whip-poor-will], "*Anthus ludovicianus*, LINN." [= *Anthus spinoletta*, Water Pipit], "*Bombycilla caroliniensis*, LINN." [= *Bombycilla cedrorum*, Cedar Waxwing], and "*Sciurus novae bosexensis*, GMEL." [= *Sciurus noveboracensis*, Northern Waterthrush].

The catalog lists 57 specimens, representing 28 species, collected during the 1849 trip. Two additional species, not on the list, were apparently overlooked when it was compiled: the Peregrine Falcon (previously discussed, see page 33), and the Greater Prairie Chicken (USNM 12566). Three flycatcher specimens, "*Tyranula acadica*, LYNN.; one male," and "*Tyranula Trailii*, AUD.; two, male and female" are very likely the two male specimens ANSP 83848 and 83849 and the female specimen ANSP 83863, all three now being listed in the museum catalog as *Empidonax acadicus* [= *E. virescens*]. Woodhouse's identification of two of these as Traill's Flycatcher was incorrect. The final count for 1849 was, then, probably 59 specimens of 29 species.

In the text of the report, Woodhouse commented on the collection as follows: "My collection of birds, I regret to say, is but small and numbers but fifty-eight specimens [only 57 were actually listed by him]. This was owing, however, to our arrival so late in the country, being the 20th of June, before we got under way from Fort Gibson, and the birds then had commenced moulting; on account of which I had to throw away a large number after shooting them. There is, however, not a great variety of birds in this section of the country. On the 16th of August, one of my barrels of my gun burst, which was a great loss,

as heretofore I was able to keep one of the barrels loaded with coarse and the other with fine shot, and in that way was always prepared to shoot large or small birds, should they present themselves; this was the cause of my losing many."

JOURNAL AND ITINERARY OF THE 1850 EXPEDITION

The following spring Woodhouse joined the survey again in Washington, D.C. The party was to be led by First Lieutenant Israel Carle Woodruff, who had been second in command in 1849.¹ Woodhouse's trip from Washington, D.C. to Fort Gibson in 1850 apparently was not documented. If he kept a diary during this period, it has not been found. He must have arrived at the fort some time in May, as 14 specimens — one Mississippi Kite, or Great Crested Flycatcher (*Myiarchus crinitus*), three Bobolinks (*Dolichonyx oryzivorus*), and nine Yellow-headed Blackbirds (*Xanthocephalus xanthocephalus*) — are listed in the catalogs of the Philadelphia Academy and the National Museum, all reportedly taken at Fort Gibson by Woodhouse in May 1850 (see Tables I and II). The only Woodhouse diary known to have been kept in 1850 was his journal of the field work. Its first entry was made at Fort Gibson 12 June when the last of the party and supplies arrived from the east. Woodhouse made daily entries in it throughout the summer until they returned to the fort on 8 October (Woodhouse, 1850).

During June at the fort the engineering officers made celestial observations to rate the chronometers and the party made preparations for field work. On 1 July they began their trip northwest across the prairie to the point where the survey had been terminated the year before, about 2 miles west of the present town of Quay, Pawnee County (see Fig. 3 and 6). They arrived there on the 15th day of July and Woodhouse made these first natural history notations in his journal: "Monday 15th [July] Clear and hot . . . left camp No. 12 at 5½ A.M. Our wagons arrived at this point which is about ¼ mile from the last post of the line at 11 A.M. Our Camp is situated on a high piece of prairie sloping on all sides and it makes a beautiful Camp and commands a view of the country for many miles There were two large Wild Turkeys brought into Camp I think they each would weigh 18 lbs They have named this Camp Bald Eagle Mound. Thursday 18th [July] Cloudy most of the day I collected and pressed a number of plants . . . fresh Fish and Wild Turkeys are brought into Camp every day Shultz brought in a faun . . . skinned 2 prairie wolves

¹The party of 1850 that served under Lieutenant Woodruff was later described in his official government report as follows: "My assistants were Mr. J. W. Smith, civil engineer, and Dr. S. W. Woodhouse, medical officer and naturalist . . . In addition to them, were engaged Mr. W. C. Mayhew, and Mr. J. R. Smith, as sub-assistants, and Mr. A. R. Potts, as quartermaster and commissary of subsistence" (Sitgreaves and Woodruff, 1858:15). J. R. Smith also kept a diary of his experiences on this trip. Although it does not contain natural history references, it is useful in furnishing additional details of events referred to by Woodhouse. The Smith diary is now in the Division of Manuscripts, University of Oklahoma Library, in Norman, Oklahoma. It was edited and partially reproduced in *The Chronicles of Oklahoma* (Rister and Lovelace, 1959).

Friday 19th [July] Clear I rode out with Woodruff and took a look at the country & collected some plants Mountains limestone and red sandstone we found on the surface in many places . . . the Thermometer at 3 P.M. was 97° I think it the hottest day we have had this season Found the flies on the prairie very bad . . . Monday 22d [July] Clear Ther 3 P.M. 96° I skinned and prepared two Turkeys but found them both moulting. . . . Thursday 25th [July] Cloudy Ther at 3 P.M. 85° there was a slight sprinkle of rain Capt Potts and I rode out to hunt a place for our next camp we passed over a rolling country and several large Creeks the crossing of which we found quite difficult the banks being steep and rocky and water deep found old buffalo bones in different directions selected a spot to encamp and returned saw a few Turkeys but did not get a shot at them. Friday 26th [July] Flying Clouds Ther at 3 P.M. 87° remained in Camp and arranged our things so as to have everything in order to start tomorrow as Lieut W. finishes taking observations to night. Mr. Mehew [=Mayhew] took several daeguereotypes . . ." (see Fig. 1).

On 30 July at a camp about 7 miles southeast of the present town of Glencoe, in Payne County, Woodhouse wrote: "Tuesday 30th [July] This morning about 3 o'clock it rained heavily and was accompanied by a hard blow with severe thunder and lightening it continued until sometime after daylight and continued cloudy at 9 A.M. We started from Camp No. 15 it then commenced drizzling but did not continue long . . . Saw numbers of wild Turkeys both old and young some of the men told me that they had seen numbers of

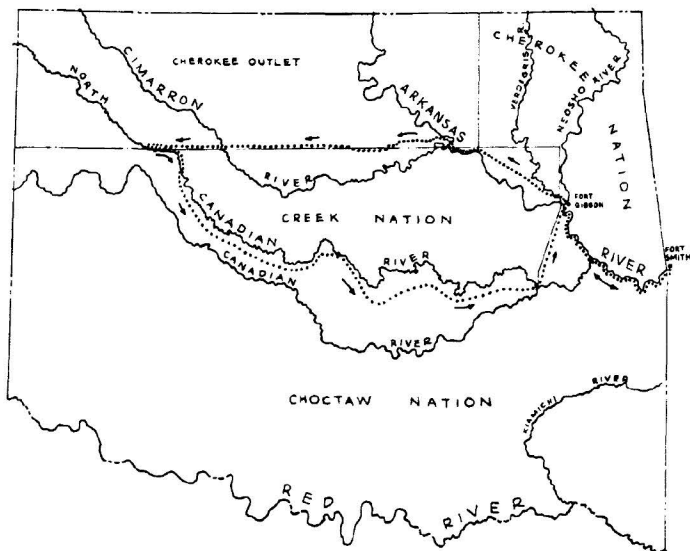


Fig. 6. Map of Indian Territory showing Woodhouse's travels in 1850. The westernmost point reached was about 2 miles northeast of the present town of Seiling, Oklahoma.

Buffalo and I went on their trail saw much sign but did not get to see them after riding a number of miles saw one wolf and made him scamper at a great rate. Shultz and Bellow saw ten Elk [*Cervus canadensis*] and I am inclined to believe these were the Buffalo of the men. Came into Camp No 16 about half past four. had more venison and turkeys brought into Camp."

At a camp about 8 miles south of the present town of Lucien in Noble County on 3 August, Woodhouse wrote: "Saturday 3d [August] Clear Ther at 3 P.M. 97° Left Camp No. 19 at 6½ A.M. and encamped at 1 P.M. on a high ridge near a fine spring. avoided most of the creeks by keeping about one mile north of the line. the grass on these praries is very short and scarcely a flower to be seen. birds remarkably scarce. I saw specimens of *Hirundo rufo* [= *Hirundo rustica*, Barn Swallow] also *Hirundo fulva* Turkeys very abundant we are getting very tired of them having them at all our meals. This is the first day we have been without venison for some time. The wagons traveled to day 6¼ miles by the line 5 miles large buffalo trails are to be found all over the prarie mostly north and south. they are of great assistance to us in finding crossings to the Creeks. some of the buffalo sign is quite fresh." Woodhouse collected a male Barn Swallow on this date. It is now ANSP 83853. The locality shown for it is "Red Fork of the Arkansas," but the area through which the party traveled that day was 12 miles north of the river. It is likely that when the specimens were tagged, the entire western leg of the survey was considered to be Red Fork country. The next day he wrote: "Sunday 4th [August] Clear Ther at 3 P M 100° this has been an excessively hot day but we had a fine sotherly breeze all day remained in Camp and put my things in order. . . . Bellow the old Frenchman saw a buffalo this morning. More venison and Turkeys brought into Camp."

The next camp, established on 5 August, was 45 miles west of the starting point of the survey that year and about 8 miles south of the present town of Hayward, Garfield County. Here Woodhouse wrote: "Wednesday 7th [August] Clear Ther at 3 P.M. 103° I started in the morning to see if I could procure some specimens of birds but returned without any. found it excessively hot."

At the next camp, in what is now Garfield County, about 2 miles northwest of the present town of Marshall, he wrote: "Friday 9th [August] Clear Ther at 3 P.M. 102° left Camp No. 21 at 6½ A.M. and encamped on a small stream five miles from our last camp on the line I came across a Marmot [*Cynomys ludovicianus*, Black-tailed Prairie Dog] village and tried to procure specimens but was not successful found numerous Owls with them (*Syrnium Cunicularia*) [= *Speotyto cunicularia*, Burrowing Owl] I procured one of them but it was moulting so bad that I threw it away." Two of Woodhouse's Burrowing Owl specimens are present today at the Philadelphia Academy. They are ANSP 37121, sex unknown, and ANSP 37122, a male, both from the "Red Fork of Arkansas," and dated only 1850. With this vague date it is difficult to estimate closely where they were taken, but it was probably in what is now southern Garfield County or northern Kingfisher County that Woodhouse

found the species "numerous." The next day he wrote: "Saturday 10th [August] Clear Ther at 4 P.M. 103° left Camp No. 22 at 6½ A.M. and encamped on a large stream [Skeleton Creek] six miles by the line and 6¾ by the road. I saw several large wolves *Canis nubilus* & *C. latrans*. I started several deer and passed through another Marmot village. The first thing this morning I returned to the Marmot village that I was at yesterday but was not successful in procuring specimens."

On 12 August the party moved 6 miles westward to a camp about 3 miles southeast of the present town of Bison, Garfield County. Woodhouse described the country thus: "Monday 12th [August] Clear Ther at 3 P.M. 103° left Camp No. 23 at 7½ A.M. one yoke of oxen were missing and this detained us encamped at 2 P.M. on a small branch which was dry excepting a few holes. this is 8 miles from our last camp by the road and six by the line however this is some distance north of the line. today's march has been over the greatest & most monotonous extent of level prairie over which we have yet travelled I saw 7 Buffalo. Bellow shot at two but did not kill them. however in the evening he killed one passed over a very large Marmot village. saw several wolves."

At the next camp, about 4 miles southwest of Bison, on Turkey Creek, where they stayed from 13 August to 18 August, he wrote: "Wednesday 14th [August] Clear Ther at 3 P.M. 105° . . . we crossed the Creek and encamped at a spring of fine water at a distance of about ¼ mile from Camp No. 25 . . . This evening we had a really game dinner it consisted of Buffalo and Venison steak Turkey soup, broiled Grouse, young Turkeys & Partridges & fried Sun Fish. all hands had a good appetite and we enjoyed it much . . . Wolves now prowl about our camp at night and keep up a great noise." Woodhouse prepared a male Bobwhite on 15 August, ANSP 37115 (see Table I). "Friday 16th [August] Ther at 3 P.M. 105° . . . Capt Potts & I took a ride in the afternoon thinking that we might shoot something but returned to Camp empty after riding a number of miles . . . There is much of a sameness in this part of the Country hardly a flower of any kind is to be seen birds few scarce and moulting . . ."

On 19 August the survey party moved west and established a camp 1 mile east of the Cimarron River about 6 miles south of the present town of Ames near the Major-Kingfisher county line. They remained here until 21 August. Woodhouse did not comment in his diary on the natural history of the area. He did, however, obtain a male specimen of the American Avocet (*Recurvirostra americana*) on 20 August along the Cimarron River. It is now ANSP 83844 (see Table I).

The party crossed the Cimarron River on 21 August. At a camp about 14 miles west of the river along the Major-Blaine county line Woodhouse wrote: "Friday 23d [August] Clear Ther at 3 P.M. 104° at 2 105° several of the men were sent ahead to look for water but returned saying that they had found none after riding several miles. Indian sign plenty going west but few buffalo

3 were killed to day, two of them however too far from Camp to bring in the meat. The other was killed late this evening and will be sent after in the morning, wolves continue numerous. Marmot villages are found in different directions and a number of them have been shot but have all fallen into their holes which are very deep and they cannot be got out. plovers (*Tringa Bartramii*) | *Bartramia longicauda*, Upland Sandpiper| are very numerous they are in immense flocks."

On 26 August camp was located near the Major-Blaine county line about 3 miles northeast of the present town of Longdale. Woodhouse wrote: "Thursday 29th [August] Showery through out the night and cloudy until about 9 A.M. . . . Capt Potts & I rode out to hunt a rode for the wagons tomorrow . . . As we were going along I espied a Bear [*Ursus americanus*, Black Bear] with three Cubs . . . The Cross Timbers here consist of small black jack and the soil is very sandy . . . I shot and prepared three specimens of the *Mulvilus forficatus*." One of these is probably USNM 12295, listed 13 July 1859 in the National Museum catalog, a male, dated only 1850 from "N. Fork of Canadian." Museum records show that the skin was destroyed on 27 January 1881. Another of the three may be one in the Philadelphia Academy collection, ANSP 37146, a female with date 1850 from "Red Fork of the Arkansas."

On 30 August camp was set on the north bank of the North Canadian River probably in the extreme northeast corner of what is now Dewey County in an area now covered by Canton Reservoir. Here Woodhouse wrote: "Friday 30th [August] Clear Ther at 2 P.M. 80° Moved Camp to the North Fork of the Canadian following most of the way the line through the Timber then striking the prarie on which near the river we found very fine grass, passed through a large Marmot village. I was not able to get a shot at them. Before we got into Camp I saw a large herd of Buffalo feeding about two miles ahead . . . I should think they numbered about 300 old and young . . . several Deer & turkeys were brought into Camp tonight it has been a long time since we have been without game of some kind and we are finding it more abundant . . ."

The next camp, also on the north bank of the North Canadian, about 3 miles northeast of the present town of Fonda, in Dewey County, was to be the last on the trip west. The survey work was terminated on 5 September at a point where the boundary line crossed the North Canadian about 2 miles northeast of the present town of Seiling, in Dewey County. Although the surveyors had intended to mark the boundary line to the 100th meridian, 60 miles farther west, their appropriation for the year would not allow them to continue. Lieutenant Woodruff decided to return to Fort Gibson, surveying the course of the North Canadian en route. On 6 September the party left their last camp on the boundary line and began the trip eastward to the fort.

They travelled that day along the north bank of the North Canadian, turning south where the river begins its southerly course north of the present town of Canton in the northwest corner of Blaine County. Woodhouse wrote:

"Friday 6th [September] Clear Ther at 3 P M 81° left our last camp No 31 on the line at 7½ A.M. On this side of the river as far as we have come today which is 11¾ miles consists of sandhills and dry swamps filled with cattails Smith and I rode for some distance on the opposite [south] bank of the river also along the bed of the River passed several old Comanche Camps the river was dry water occasionally in holes and these filled with fish we had quite a battle with two garfish. Saw but little game. The place that we are encamped tonight is near a hole of water on a level piece of ground and the musquetoës are almost devouring us. the water is salty no doubt but from the Buffalo use. rained this evening."

Although Woodhouse did not mention it in his journal, his most notable specimen of the year was collected on this date, 6 September 1850. It was a dove (see Fig. 7) taken at or near the locality described above. Later, after he had returned to Philadelphia, he described as new "*Ectopistes marginella*," designating the specimen as the type (Woodhouse, 1852b: 104-105). Though ornithologists of the day seemed to realize that the dove was not a new species, when Mearns (1911, Auk, 28: 490) wrote that the Mourning Dove of the west was "a pallid . . . form," he accepted Woodhouse's description and name, and the western subspecies is known today as *Zenaida macroura marginella*. It is interesting that Woodhouse believed his new bird to be smaller than the dove with which he was familiar in the east. He commented, in his original description, "I saw several of them feeding on the ground, and was immediately struck



Fig. 7. *Ectopistes marginellus*, a dove described as new by Woodhouse from a specimen collected 6 September 1850 along the North Canadian River in what is now northwestern Blaine County, Oklahoma. The form is known today as *Zenaida macroura marginella*, a not very well marked geographical race of the Mourning Dove. From a drawing by R. H. Kern (Sitgreaves, 1853: Birds, Plate 5).

with their size, being so much smaller than our common dove" (Woodhouse, *loc. cit.*). He must have based this statement wholly on memory; apparently he did not compare measurements of his Indian Territory bird with those of eastern specimens before publishing his description. Ridgway's opening statement concerning *Z. m. marginella* reads: "Similar to *Z. m. carolinensis* but averaging slightly paler, upper parts slightly grayer, and size slightly larger" (Ridgway, 1916, Bull. U.S. Natl. Mus. 50, Pt. VII, p. 347).

The specimen, an immature male taken in "the cross timbers on the North Fork of the Canadian" [=North Canadian River], is in the National Museum type collection, USNM 10320 (Deignan, 1961, Bull. U.S. Natl. Mus. 221: 113). The type locality can now be specifically designated as 3 miles north of Canton in Blaine County, Oklahoma (about where the Canton Reservoir dam is now located). T. S. Bober, of the USNM staff, reports that the specimen was lent to the Chicago Academy of Science on 28 January 1881 and returned in October 1919. He also wrote that "the skin is in poor condition, with head, right wing and tail missing!" (Bober letters of 24 August and 29 November 1967).

On 7 September the party moved 12 miles farther downstream to a spot about 2 miles east of the present town of Eagle City in Blaine County. Here Woodhouse wrote: "Saturday 7th [September] Cloudy and foggy until 9 A.M. then clear and warm Ther at 3 P.M. 82° after going about two miles this morning we crossed the river which we found dry and got on a ridge on the opposite side . . . We left Camp No. 1 of the return this morning at 7½ A.M. and pitched our Camp on a high piece of prairie near a large branch in which the water is standing in holes and it is rather salty near Camp there is a fibrous Gypsum The grass is excellent I have seen little game to day. got here about 2 P.M. being 12 miles from No 1 I rode down the river some distance in search of good water but I could find none I shot a number of small snipe and collected some fine flowers . . ." A male Killdeer, USNM 12656, and two Least Sandpipers (*Calidris minutilla*), a female USNM 12663 and a male USNM 12664, are listed in the National Museum catalog as having been collected 6 September 1850 at "N. Fork of Canadian." The two sandpipers are very likely the "small snipe" taken 7 September at this locality. None of the three specimens is at the National Museum today (see Table II).

The party moved again, this time 12 miles downstream to a locality near the present town of Greenfield, Blaine County. Here Woodhouse wrote: "Monday 9th [September] Cloudy and rain until half past six A.M. Much rain has fallen during the night it was accompanied with heavy thunder & lightning . . . We did not get started from Camp No 2 until 8½ A.M. Mr. Smith and I struck off on a hunt we followed up the stream that we were camped on and kept near the timbered ridge cutting across the stream heads we at last saw two deer and Mr S got a shot about 120 yds off but missed we then shot at some Turkeys running and both missed them after riding some distance saw two more deer but did not get shots at them something having frightened

them. Most of the streams that we have crossed today have had fine running water in them and what is singular Mr Woodruff tells me that [downstream near the river where the wagon train was travelling] they have crossed but one that had water in. This I have found the case with most of the streams in this Country they run some distance and then sink they have very fine Timber near their source & for some distance also some fine Cedars. Mr S had a wolf chase, then a number of Buffalo about eight coming in sight he gave them chase . . . We rode ahead and I got on top of a high ridge and seeing a herd of Buffalo hailed Mr Smith and he started in pursuit there were 16 of them and he had a fine Chase but was not successful in killing one . . .”

At a later camp near the present El Reno, Canadian County, Woodhouse wrote: “Wednesday 11th [September] Clear Ther at 3 P.M. 90° Mr Smith Bellow & I started immediately after breakfast to take a hunt, passed some old Indian Camps and struck over to the river here we found Turkeys one of which Mr Smith shot and when he went to pick it up it was not there, it evidently was siezed by a wild Cat [*Lynx rufus*, Bobcat] after passing down the river a short distance farther and were about watering our horses Mr. S. spied a Wild Cat, he immediately dismounted so as to get a shot at him, when another came near lighting on his head jumping from a tree above and he got a shot at neither, we found a few holes of standing water and quite a number of fresh Buffalo prints made this morning, we followed them across the river among the sand hills but were not able to see any thing of them . . .”

On 13 September at a camp near the North Canadian River in what is now the southwest part of Oklahoma City, Oklahoma County, while Woodhouse was confined to his tent because of a back injury, he wrote: “Friday 13th [September] Foggy early in the morning then Clear and Ther at 3 P.M. 89° today there was hardly a breath of air stirring for this reason it felt excessively hot although not indicated by the thermometer . . . Mr Smith brought in with him quite a number of fine fish Some of them look much like Herring in shape what they are I do not know the rest are what they call trout & speckled Cat fish. Kerls caught a tremendous Cat Fish and it was as much as he could do to get him into Camp. They brought me some specimens of birds and Shells . . . Saturday 14th [September] Clear Ther at 3 P.M. 93° I prepared some birds, and overhauled my plants found the most of them wet and damaged and some entirely spoiled, they must have got wet last Sunday night by the rain getting into the wagon I regret not having discovered it before. Capt Potts Smith's and Mahew [=Mayhew] all went a fishing and brought back with them a considerable number . . . More game was brought into Camp tonight Sunday 15th [September] Foggy early this morning and on clearing was very hot Ther at 3 P.M. 87°. I spent the day getting my things in order and drying my plants . . .” A specimen of Greater Yellowlegs, USNM 12605, listed in the National Museum catalog with a collection date of 15 September 1850, may have been one of the birds prepared by Woodhouse on 14

September at this locality (see Table II). At the next camp, 9¹/₂ miles east of the last, he wrote: "Monday 16th [September] Early in the morning foggy and Cold but when this disappeared it got quite hot although there was a fine breeze . . . I saw two deers & a number of wolves. Shultz & Kerls saw near the river bank about five miles from this Camp a number of Beaver [*Castor canadensis*] lodges and plenty of fresh sign . . ."

At the next camp, near the present town of Spencer, northeast of Oklahoma City in Oklahoma County, Woodhouse wrote: "Tuesday 17th [September] Clear Ther at 3 P.M. 84° left Camp No 8 at 8 A.M. and after crossing numerous Creeks some of which were very deep came into Camp at 3 P.M. having come eleven miles passed through much black jack also prairie the rode was very good. The red sandstone makes its appearance on the surface occasionally. We are encamped to night near a hole of fine water in a small piece of prairie surrounded by a small oak timber since we have been here there has been some fine fish caught principally what they call trout, we [had] a fine breeze all day. Saw several Deer & Wood Ducks (*A. sponsa*) . . . Shultz saw a Buffalo Cow and Calf." At the next camp, directly east of the last, on the bank of the North Canadian near the present town of Choctaw, Oklahoma County, Woodhouse wrote: "Wednesday 18th [September] Clear Ther at 3 PM 95° but we had a fine breeze from the South . . . The river from last nights Camp was about 3 miles distant and running North East making a great bend which we have cut off by going nearly East and we are now encamped on the bank of it . . . I saw four Deer. Their sign along the river is very numerous Thursday 19th [September] Clear Ther at 3 P.M. 88° . . . I prepared some birds in the afternoon I started out to fish but was not too successful not finding good places The water being shoal I walked up the bed of the river about three miles did not return until dark." A female American Kestrel (*Falco sparverius*), ANSP 37118, taken 19 September on the "Red Fork of Arkansas," is one of these birds (see Table I).

From this camp the party continued east, the surveyors chaining just south of the North Canadian while the wagon train travelled mostly on higher prairie land farther south. They passed through the Creek Indian town of "Wewoca," near the mouth of Wewoka Creek on the North Canadian on 28 September and arrived at North Fork Town, a settlement near the junction of the North Canadian and the Canadian, on 3 October. On 7 October, at a camp near the present town of Summit, Muskogee County, Woodhouse wrote this last comment concerning birds: "Monday 7th [October] Cloudy and some little rain left Camp shortly after daylight and at 3 P.M. came to a halt having come 19¹/₄ miles over Prarie and a good road this evening we caught a few fish Shultz shot some Grouse . . ." The next day, 8 October 1850, the party arrived at Fort Gibson where they concluded the work of the survey. Woodhouse ended his diary on that date. He then packed his specimens and returned to Philadelphia. If he kept a diary of the return trip it has not been found.

THE NATURAL HISTORY REPORT OF THE 1850 EXPEDITION

In Philadelphia, Woodhouse wrote his second natural history report, this one concerning the country covered by the 1850 survey. Dated 6 January 1851 and addressed to Lieutenant I. C. Woodruff, U.S. Topographical Engineers, it was published in 1858 together with the report of the 1849 survey, as previously discussed (see page 37). No list of birds was presented in this report; five species were mentioned, however, four of which were not listed in the previous year's report. This makes a total of 116 species observed by Woodhouse in Indian Territory. He also wrote that 75 specimens were obtained in 1850, but he did not list specimens as he had in the 1849 report. He wrote: "The collections I have carefully overhauled, and at present have stored them carefully at the Academy of Natural Sciences of Philadelphia." The brief report was obviously only provisional since he included in it the following: "I say imperfect report, for, being about to leave again immediately with Captain Sitgreaves, for the exploration of the river Zuñi, I have not time to give my collection the necessary examination, but upon my return I intend to present a more extended and more satisfactory report, both of last and this season's observations."

THE SUMMARY NATURAL HISTORY REPORT OF BOTH THE 1849 AND 1850 EXPEDITIONS

When Woodhouse returned from the Zuñi and Colorado River expedition of 1851-52, he wrote a summary report of both his 1849 and 1850 surveys in Indian Territory (Woodhouse, 1852a). It was dated 1 December 1852 and was addressed to Brevet Captain L. Sitgreaves and Lieutenant I. C. Woodruff. He began with this explanation: "Having promised in the short reports which you have separately received, that on my return I would furnish you with a more detailed account of the Natural History of the Creek and Cherokee Country, so far as came under my observation during the years 1849 and 50 whilst attached to the Topographical parties under your command as Surgeon and Naturalist, and engaged in running and marking the northern boundary of the Creek Nation, I now proceed to give it." The report was apparently intended to replace the two shorter reports of 1849 and 1850. The short reports, however, were later published as part of the official governmental reports of the survey of the Creek Indian Nation boundary line (Sitgreaves and Woodruff, 1858). It is not known why this summary report was not published. It may have been decided that the two natural history reports would better complement the separate engineering reports of Sitgreaves and Woodruff in this document.

The summary report was referenced for the first time by Sutton (1967). It is known only from a typewritten copy of the original. The copy is incomplete since at its end Woodhouse states: "You will find accompanying this a Catalogue of Birds, Quadrupeds, Reptiles, Fish, Coleopterous Insects and

Plants found by me whilst in this country." This catalog apparently was not copied with the text of the report and is not with it.

The only copy known is a part of the Grant Foreman collection of early Oklahoma historical papers now in the Thomas Gilcrease Institute of American History and Art in Tulsa, Oklahoma. Grant and Carolyn Foreman copied papers of this sort in many different libraries and institutions during their years of research on Oklahoma history (Wiesendanger, 1948, Grant and Carolyn Foreman a bibliography, Univ. Tulsa, p. 6). There is no notation with the copy indicating the whereabouts of the original. A search of the National Archives in Washington, D.C. was made to determine if the original was there. Mr. O. E. Parker, Assistant Director, Old Military Records Division, wrote that an old letter register there shows that the Woodhouse report and a cover letter were received by the Topographical Bureau 2 February 1853. The cover letter is in the archives but the report and catalog are missing. A search for these lost reports in the archives of the War Department and in the National Museum records was unsuccessful (O. E. Parker letter of 28 January 1971).

THE NATURAL HISTORY REPORT IN SITGREAVES' ZUÑI AND COLORADO RIVER REPORT

Immediately after writing the summary report of the Indian Territory expeditions, Woodhouse wrote a report of the natural history observed during 1851-1852 while on the expedition to explore the Zuni and Colorado rivers. It was addressed to Brevet Captain L. Sitgreaves and was dated 25 January 1853. While the text deals only with the natural history of the Zuni and Colorado River country, Woodhouse for some reason included his Indian Territory observations of plants and animals in the species list. His only explanation is this comment in the introduction: "I have taken the liberty of introducing much of the natural history of Indian Territory, in which country I had the honor to be attached to a party under your command, in a similar capacity, in the year 1849, and under Lieut J. [=I.] C. Woodruff, in the year 1850." This natural history report was published in Sitgreaves' official governmental report of the 1851-52 expedition (Sitgreaves, 1853). It may be that Woodhouse found that the earlier Indian Territory reports would not be published for some time and he probably wanted to see this material in print as soon as possible. Actually these reports were not published until 1858, and then only the short, rather incomplete reports were printed.

This document has been the main source of information about Woodhouse's work in Indian Territory. In the bird list that is part of the report he indicates that 151 species were observed by him in what is now Oklahoma. It contains 40 species that were not mentioned in his earlier writings. In earlier reports he had, however, included five species (see p. 37) that were not on his 1853 list, so the total number of Indian Territory species mentioned in all of Woodhouse's reports is 156.

THE SITGREAVES AND WOODRUFF CREEK BOUNDARY SURVEY REPORT

This report, not published until 1858, was the official government publication concerning the 1849 and 1850 surveys of the north and east boundary of the Creek Indian Nation (Sitgreaves and Woodruff, 1858). It contains Captain L. Sitgreaves' account (dated 14 February 1850) of the survey party's activities under his command during the 1849 expedition, and Woodhouse's natural history report (dated 20 February 1850) for 1849. It contains also an account of activities of the 1850 party as reported by Lieutenant I. C. Woodruff under date of 1 September 1850, and Woodhouse's brief natural history report (dated 6 January 1851) covering the 1850 trip. These two reports, as previously stated, presented much historically important data. They contain information on plants, mammals, reptiles, and mollusca, as well as on birds, and have apparently been largely unknown to students of the natural history of this area.

THE INDIAN TERRITORY BIRD SPECIMENS

I made a point of investigating Woodhouse's Indian Territory bird specimens to learn exactly how many he collected, just where he took them, and which of them are still in existence. From comments in his journals, from his published and unpublished reports, and from listings in museum catalogs, I determined that he preserved 134 specimens of 46 species. These were, apparently, first deposited in the Academy of Natural Sciences of Philadelphia (Sitgreaves and Woodruff, 1858:27). Today 49 are listed in the museum catalog there. Of these, 46 are presently in their collection, three having been destroyed or lost (Mary F. Trout letters of 19 and 31 August 1971 and of 9 September 1971).

Several Woodhouse specimens were transferred from the Academy to the National Museum in Washington, D.C., where 45 were catalogued in July 1859. Five of these were returned to the Academy in 1928 and are currently listed there; 35 have been destroyed or lost; and five are still at the National Museum (T. S. Bober letter of 24 August 1967).

Thus 51 Woodhouse specimens, representing 27 species, are present today in the two collections. The 51 are listed on Tables I and II as they appear in the museum catalogs. For most specimens listed on these tables dates and localities on labels make clear just where they were collected in what is now Oklahoma. These specimens I have discussed chronologically, as they were obtained. Some, however, are dated only with the year or with the month and year. Six have such vague localities as "Cherokee Nation" or "Red Fork of the Arkansas" and are without date, so a close determination of their origin is impossible. Some I have placed using Woodhouse's diary comments about them.

SUMMARY OF ORNITHOLOGICAL ACCOMPLISHMENTS

Among the many birds observed and collected during his expeditions to Indian Territory in 1849 and 1850, and to the Zuñi and Colorado rivers in 1851, Woodhouse discovered several that were new to science. His fame as an ornithologist has resulted largely from his published descriptions of these new forms.

After the Indian Territory trips, as previously discussed, he described a "species" of dove, "*Ectopistes marginella*" (Woodhouse, 1852b: 104), from a specimen collected 6 September 1850 in what is now Blaine County, Oklahoma. The form is known today as *Zenaida macroura marginella*, a subspecies of the Mourning Dove.

During the expedition to explore the Zuñi and Colorado rivers he found four new species of western birds. When he returned to Philadelphia he described the Cassin's Sparrow, *Zonotrichia Cassinii* [= *Aimophila cassinii*], from a specimen taken 25 April 1851 in Bexar County, Texas (Woodhouse, 1852c:60); the Black-capped Vireo, *Vireo atricapilla*, from a specimen collected 26 May 1851 in Sutton County, Texas (Woodhouse, 1852c:60); the White-throated Swift, *Acanthylis saxatilis* [= *Aeronautes saxatalis*], from observations of the species at Inscription Rock in Valencia County, New Mexico, in September 1851 (Woodhouse, in Sitgreaves, 1853:64); and the Gray-headed Junco, *Struthus caniceps* [= *Junco caniceps*], from a specimen taken 14 October 1851 in Coconino County, Arizona (Woodhouse, 1853:202).

Woodhouse was honored by Spencer F. Baird, who named as new *Cyanocitta woodhouseii*, a jay that Woodhouse had collected on 11 October 1851 in Catron County, New Mexico (Baird, in Baird, Cassin, and Lawrence, 1858, Rep. Expl. and Surv. R. R. Pac., 9: xliiii, 584, 585); today the form is considered a geographical race of the Scrub Jay, *Aphelocoma coerulescens*.

Woodhouse's work on these three expeditions and his publications relating to them were the climax of his ornithological accomplishments. His next 45 years were largely spent in pursuing his medical career. He was not active in ornithological circles again until 1898, when he attended and spoke informally at meetings of the Academy of Natural Sciences of Philadelphia, of which he was a Life Member (Stone, 1904). During this time he was named a Corresponding Member of the Delaware Valley Ornithological Club. In 1903 he was elected a Corresponding Fellow of the American Ornithologists' Union. He died 23 October 1904, at the age of 83, in Philadelphia (Hume, 1942, Ornithologists of the U.S. Army Med. Corps, Johns Hopkins Press, p. 503).

CONCLUSIONS

This investigation has brought to light three important Woodhouse journals containing daily entries made during his visits to Indian Territory in 1849 and 1850 (Woodhouse 1849a, 1849b, and 1850). From these journals his itinerary has been accurately determined and shown on the maps in Figures 3 and 6. Two separate reports written by Woodhouse on the natural history of the expeditions and published in a government document (Sitgreaves and Woodruff, 1858: 5-13, 25-27) contain the first formal list of Oklahoma birds and mention five species observed by Woodhouse that are not noted in his other writings. Woodhouse collected 134 bird specimens of 46 species in Indian Territory. Of the 134 specimens, 89 were found to have been listed in the catalogs of the Academy of Natural Sciences of Philadelphia and the U.S. National Museum in Washington, D.C., but 45 were not accounted for. Forty-six are present today in the Academy's collection and five are at the National Museum. The localities at which many of these were collected have been determined very closely. The type locality of *Zenaida macroura marginella*, the western race of the Mourning Dove, has been defined more accurately than heretofore. The narrative has provided us with an intimate view of the work of a man who was, as Margaret Nice (1931:22) described him, the "last observer to record the bird life of Oklahoma in its glory . . ." After the Civil War were to be seen the last remnants of the plentiful game and of the now extinct Passenger Pigeon, Carolina Parakeet, and Ivory-billed Woodpecker that Woodhouse saw when he was in Indian Territory.

ACKNOWLEDGMENTS

This study began as a cursory investigation of Dr. Woodhouse's work in Tulsa County, my area of special interest. As new information came to light, it became apparent that the whole story of the two expeditions should be presented. For encouraging me to do this and for his help and continuing interest, I am grateful to Dr. George M. Sutton. I thank Dr. A. P. Blair, of the University of Tulsa, for editorial suggestions and Margaret M. Nice for correspondence concerning her data on Woodhouse.

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Table I
Woodhouse's Indian Territory Bird Specimens Listed in the
Academy of Natural Sciences of Philadelphia Catalog

No.	ANSP No.	Name, Sex, Date, and Locality
1.	*2033	Mississippi Kite (<i>Ictinia mississippiensis</i>), female, no date. "Red Fork, Arkansas River."
2.	*2034	Mississippi Kite (<i>Ictinia mississippiensis</i>), no sex, no date. "Red Fork, Arkansas River."
3.	*33244	Mississippi Kite (<i>Ictinia mississippiensis</i>), male, May 1850. "Ft. Gibson."
4.	*37115	Bobwhite (<i>Colinus virginianus</i>), juvenal male, 15 August 1850. "Red Fork, Arkansas River."
5.	*37118	American Kestrel (<i>Falco sparverius</i>), female, 19 September 1850. "Red Fork, Arkansas River."
6.	*37119	American Kestrel (<i>Falco sparverius</i>), male, November 1849. "Creek Nation."
7.	*37121	Burrowing Owl (<i>Speotyto cunicularia</i>), male, 1850. "Red Fork, Arkansas River."
8.	*37122	Burrowing Owl (<i>Speotyto cunicularia</i>), male, 1850. "Red Fork, Arkansas River."
9.	*37145	Scissor-tailed Flycatcher (<i>Muscivora forficata</i>), female, 29 July 1849. "Cherokee Nation."
10.	*37146	Scissor-tailed Flycatcher (<i>Muscivora forficata</i>), female, 1850. "Red Fork, Arkansas River."
11.	*37147	Scissor-tailed Flycatcher (<i>Muscivora forficata</i>), male, 3 August 1849. "Creek Nation."
12.	*37152	Bobolink (<i>Dolichonyx oryzivorus</i>), male, May 1850. "Ft. Gibson, Creek Nation."
13.	*37157	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), female, May 1850. "Ft. Gibson, Creek Nation."
14.	*37159	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), male, May 1850. "Ft. Gibson, Creek Nation."
15.	*37160	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), female, May 1850. "Ft. Gibson, Creek Nation."
16.	*37161	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), male, May 1850. "Ft. Gibson, Creek Nation."
17.	*37162	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), male, May 1850. "Ft. Gibson, Creek Nation."
18.	*37176	Dickcissel (<i>Spiza americana</i>), female, 20 July 1849. "Cherokee Nation."
19.	*37183	Blue Grosbeak (<i>Guiraca caerulea</i>), male, July 1849. "Cherokee Nation."
20.	*37184	Dickcissel (<i>Spiza americana</i>), female, 1850. "Red Fork of Arkansas."
21.	*37192	White-crowned Sparrow (<i>Zonotrichia leucophrys</i>), male, November 1849. "Creek Nation."
22.	*37193	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>), no sex, 1850. "North Fork of Canadian River."
23.	*37194	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>), male, 1850. "Cherokee Nation 50 mi. West of Arkansas R., Red Fork."
24.	*37195	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>), female, 27 July 1849. "Cherokee Nation."
25.	*37196	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>), male, 1850. "Red Fork."
26.	*37197	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>), male, 27 July 1849. "Cherokee Nation."
27.	*37198	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>), no sex, August 1849. "Cherokee Nation."
28.	*37202	Summer Tanager (<i>Piranga rubra</i>), male, 25 June 1849. "Cherokee Nation."
29.	*37205	Bewick's Wren (<i>Thryomanes bewickii</i>), male, 1850. "North Fork of Canadian River."
30.	*37213	Cerulean Warbler (<i>Dendroica cerulea</i>), no sex, 1850. "Cross Timbers near Red Fork, Ark."
31.	*37214	Cerulean Warbler (<i>Dendroica cerulea</i>), no sex, 1850. "Cross Timbers near Red Fork, Ark."
32.	*37218	Hooded Warbler (<i>Wilsonia citrina</i>), male, 31 July 1849. "Cherokee Nation."
33.	*37219	Prothonotary Warbler (<i>Protonotaria citrea</i>), male, July 1849. "Cherokee Nation."
34.	37221	Kentucky Warbler (<i>Oporornis formosus</i>), female, 25 June 1849. "Cherokee Nation."
35.	37222	Kentucky Warbler (<i>Oporornis formosus</i>), male, 25 June 1849. "Cherokee Nation."
36.	*83839	American Kestrel (<i>Falco sparverius</i>), female, no date. "Canadian River."
37.	*83844	American Avocet (<i>Recurvirostra americana</i>), male, 20 August 1850. "Red Fork of Arkansas River."
38.	*83848	Acadian Flycatcher (<i>Empidonax virescens</i>), male, no date. "Cherokee Nation."
39.	*83849	Acadian Flycatcher (<i>Empidonax virescens</i>), male, 25 June 1849. "Falls of Verdigris, Arkansas."
40.	*83850	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>), male, no date. "Cherokee Nation."
41.	*83852	Hooded Warbler (<i>Wilsonia citrina</i>), male, July 1849. "Cherokee Nation."
42.	*83853	Barn Swallow (<i>Hirundo rustica</i>), male, 3 August 1850. "Red Fork of Arkansas River."
43.	*83855	Tree Swallow (<i>Iridoprocne bicolor</i>), female, 27 July 1849. "Cherokee Nation."
44.	*83858	White-crowned Sparrow (<i>Zonotrichia leucophrys</i>), male, 29 November 1849. "Creek Nation."
45.	*83860	Great Crested Flycatcher (<i>Myiarchus cinerascens</i>), male, May 1850. "Red Fork of Arkansas River."
46.	*83861	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>), no sex, August 1849. "Creek Nation."
47.	*83862	McCown's Longspur (<i>Calcarius mccownii</i>), no sex, 1850. "North Fork, Canadian River."
48.	*83863	Acadian Flycatcher (<i>Empidonax virescens</i>), female, 25 June, 1849. "Falls of Verdigris, Arkansas."
49.	*83864	Downy Woodpecker (<i>Dendrocopos pubescens</i>), no sex, no date. "Cherokee Nation."

*Asterisks indicate specimens that are presently in the museum collection; the others have been destroyed, lost, or lent and present whereabouts are unknown.

Table II
Woodhouse's Indian Territory Bird Specimens Listed
in the Catalog of the National Museum of Natural History

No.	USNM No.	Name, Sex, Date, and Locality
1.	*10320	Mourning Dove (<i>Zenaidura macroura marginella</i>), immature male, 6 September 1850. "Cross Timbers North Fork of Canadian."
2.	12140	Summer Tanager (<i>Piranga rubra</i>), no sex, 26 June 1849. "Cherokee Nation."
3.	12142	Summer Tanager (<i>Piranga rubra</i>), female, 3 August 1849. "Cherokee Nation."
4.	12146	Prothonotary Warbler (<i>Protonotaria citrea</i>), male, 25 June 1849. "Cherokee Nation."
5.	12147	Prothonotary Warbler (<i>Protonotaria citrea</i>), female, July, 1849. "Cherokee Nation."
6.	12148	Hooded Warbler (<i>Wilsonia citrina</i>), male, July, 1849. "Cherokee Nation."
7.	12150	Hooded Warbler (<i>Wilsonia citrina</i>), female, July 1849. "Cherokee Nation."
8.	*12160	Cerulean Warbler (<i>Dendroica cerulea</i>), young male, 4 July 1849. "Cherokee Nation."
9.	12162	Cerulean Warbler (<i>Dendroica cerulea</i>), no sex, 4 July 1849. "Cherokee Nation."
10.	12194	Yellowthroat (<i>Geothlypis trichas</i>), male, 15 July 1849. "Cherokee Nation."
11.	*12195	Blue-winged Warbler (<i>Vermivora pinus</i>), female, no date. "Creek Nation."
12.	12196	Kentucky Warbler (<i>Oporornis tolmossus</i>), female, 26 June 1849. "Cherokee Nation."
13.	12198	Kentucky Warbler (<i>Oporornis tolmossus</i>), male, 14 July 1849. "Cherokee Nation."
14.	12199	Swainson's Thrush (<i>Hylocichia ustulata</i>), female, 1850, no locality.
15.	12261	Red-bellied Woodpecker (<i>Centurus carolinus</i>), male, 27 July 1849. "Cherokee Nation."
16.	12262	Red-bellied Woodpecker (<i>Centurus carolinus</i>), female, 25 June 1849. "Cherokee Nation."
17.	12295	Scissor-tailed Flycatcher (<i>Muscivora forficata</i>), male, 1850. "No Fork of Canadian River."
18.	12296	Scissor-tailed Flycatcher (<i>Muscivora forficata</i>), female, 16 July 1849. "Cherokee Nation."
19.	12410	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), male, May 1850. "Fort Gibson."
20.	12412	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), male, May 1850. "Fort Gibson."
21.	12413	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), male, May 1850. "Fort Gibson."
22.	12415	Yellow-headed Blackbird (<i>Xanthocephalus xanthocephalus</i>), female, May 1850. "Fort Gibson."
23.	12420	Bobolink (<i>Dolichonyx oryzivorus</i>), male, May 1850. "Fort Gibson."
24.	12421	Bobolink (<i>Dolichonyx oryzivorus</i>), male, May 1850. "Fort Gibson."
25.	12477	Lincoln's Sparrow (<i>Melospiza lincolni</i>), male, 1850. "No Fork of Canadian River."
26.	12482	Chestnut-collared Longspur (<i>Calcarius ornatus</i>), male, 1850. "No Fork of Canadian River."
27.	12504	Loggerhead Shrike (<i>Lanius ludovicianus</i>), male, 1850. "No Fork of Canadian River."
28.	12516	Dickcissel (<i>Spiza americana</i>), female, 21 July 1849. "Cherokee Nation."
29.	12517	Dickcissel (<i>Spiza americana</i>), female, 21 July 1849. "Cherokee Nation."
30.	*12523	Blue Grosbeak (<i>Guiraca caerulea</i>), male, no date. "Cherokee Nation."
31.	*12566	Greater Prarie Chicken (<i>Tympanuchus cupido</i>), female, 2 November 1849. "Cherokee Nation."
32.	12581	Bonaparte's Gull (<i>Larus philadelphia</i>), no sex, 1 October 1849. "Creek Nation."
33.	12605	Greater Yellowlegs (<i>Tringa melanoleuca</i>), female, 15 September 1850. "No Fork of Canadian River."
34.	12606	Greater Yellowlegs (<i>Tringa melanoleuca</i>), male, 9 October 1849. "Creek Nation."
35.	12609	Upland Sandpiper (<i>Bartramia longicauda</i>), male, 1850. "No Fork of Canadian River."
36.	12633	American Coot (<i>Fulca americana</i>), female, 3 October 1849. "Creek Nation."
37.	12656	Killdeer (<i>Charadrius vociferus</i>), male, 6 September 1850. "No Fork of Canadian River."
38.	12657	Killdeer (<i>Charadrius vociferus</i>), female, 1 October 1849. "Creek Nation."
39.	12663	Least Sandpiper (<i>Calidris minutilla</i>), female, 6 September 1850. "No Fork of Canadian River."
40.	12664	Least Sandpiper (<i>Calidris minutilla</i>), male, 6 September 1850. "No Fork of Canadian River."

*Asterisks indicate specimens that are presently in the museum collection. The others have been destroyed, lost, or lent and present whereabouts are unknown.

Five specimens listed in the catalog of the National Museum of Natural History are not listed here. They were transferred back to the Academy of Natural Sciences of Philadelphia in 1928 and appear in that list under their numbers (see Table I).

5911 E 46TH ST., TULSA, OKLAHOMA 74135. 14 JUNE 1974.

GENERAL NOTES

Great Egret at Black Mesa State Park, Cimarron County, Oklahoma.—At about 1700 on 2 September 1972 in Black Mesa State Park, about ten miles southeast of Kenton, Cimarron County, far western Oklahoma, my husband, John, and I saw a Great Egret (*Casmerodius albus*) flying not more than 40 feet above us along the western edge of Lake Carl Etling. It was so close that we could easily see the yellow beak and the black feet and legs. The sky was cloudy and the air cool, a cold front having moved in the evening before.

According to Sutton (1967, Oklahoma birds, pp. 33-34) the Great Egret has not been reported heretofore from Cimarron County, Oklahoma.—Emma H. Messerly, 344 S.E. Elmhurst, Bartlesville, Oklahoma 74003, 1 October 1973.

Early fall date for Common Merganser.—At about 0815 on 13 October 1973 several members of the Lawton-Fort Sill Bird Club watched a female Common Merganser (*Mergus merganser*) loaf and preen atop an old, partially submerged barge at the edge of Lake Ellsworth, 3 miles northwest of Elgin, Comanche County, southwestern Oklahoma. Several of us studied the bird closely through a 40X telescope. It appeared to be healthy. We did not attempt to make it fly. Skies at this time were solidly overcast and rain imminent; no wind stirred and the temperature was near 60°F. An inch and one-half of rain, precipitated by a slow, eastward-moving cold front, had pelted the lake—already swelled to record levels—during the preceding two days, but no unusually cold weather had yet occurred in the area.

Sutton (1967, Oklahoma birds, p. 85) states that this species has been seen in the state from October 26 to June 3, and is "locally abundant during coldest part of winter."—Jack D. Tyler, Department of Biology, Cameron College, Lawton, Oklahoma 73501, 15 January 1974.

Mid-October hawk migration in Payne County, Oklahoma.—On 13 October 1972, a clear warm day, along the northeast edge of Stillwater, Payne County, north-central Oklahoma, in a period of just over an hour, I observed the migration of seven species of hawks totaling 30 birds. Observation was with binocular and spotting scope. The migration consisted of seven Turkey Vultures (*Cathartes aura*), two Cooper's Hawks (*Accipiter cooperii*), eight Red-tailed Hawks (*Buteo jamaicensis*), one Swainson's Hawk (*Buteo swainsoni*), one Marsh Hawk (*Circus cyaneus*), one Merlin (*Falco columbarius*), and ten American Kestrels (*Falco sparverius*). Single birds and small groups passed overhead every few minutes and all were moving to the south. The Merlin, which I believe to have been a female, came in fast and in direct flight, overtaking and stooping several times at a female Cooper's Hawk, chasing it out of sight, southward. The vultures and hawks were soaring, entering a fast-rising southward flowing thermal and moving again south after gaining height. The American Kestrels soared south but did not enter the thermal.—Steve Platt, 221 South Burdick, Stillwater, Oklahoma 74074, 15 May 1974.

Monk Parakeet in Oklahoma.—The Monk Parakeet (*Myiopsitta monachus*), a not very brightly colored native of southern South America, has long been popular as a cage bird. In 1968 about 12,000 of them were imported into the United States; some that have escaped or been freed "are apparently surviving and breeding in the wild for they have been reported from western Long Island to the eastern shore of Virginia" (Bump, 1972, Amer. Birds, 26: 567). The species has recently appeared in Oklahoma—in Norman, Cleveland County, in the central part of the state, and in Tulsa County in the northeast-